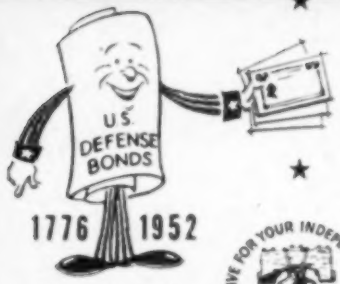
NOVEMBER, 1952

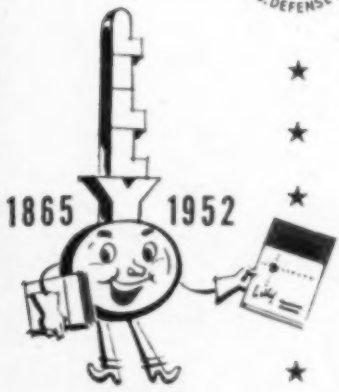
Industrial FINISHING

Published Monthly in the Interest of Product Cleaning and Painting by Practical Publications, Inc., 3168 N. Meridian Street, Indianapolis 4, Ind.



BILLY BOND says:

Do you know how many Historic Bonds have been offered by the U. S. Treasury since 1776? Do you know the dates and purposes for which they were issued?



BILLY LILLY says:

There have been eleven bond issues by the U. S. Treasury. The first three issues of 1776, 1803 and 1812 have been covered in previous Lilly ads. The next two, 1846 and 1862, will be covered in the Lilly Varnish ad in December issue of Industrial Finishing. Watch for it.

Lilly FINISHES

VARNISH COMPANY

Indianapolis, Indiana • Gardner, Mass.

THE LILLY COMPANY • High Point, N. C.

TO GIVE YOUR PRODUCT A GOOD START, GIVE IT AN INTERCHEMICAL FINISH!

Undercoats . . . Varnishes . . . Lacquers . . .
Enamels for Metal . . . Plastic . . . Wood

AULT & WIBORG, MURPHY, ROXALIN, AND IC ARE TRADEMARKS OF INTERCHEMICAL CORPORATION

IN CANADA, SIMILAR PRODUCTS ARE MADE AND SOLD BY AULCRAFT PAINTS LIMITED, TORONTO, UNDER THE TRADE NAME "AULCRAFT PAINTS".

NEW SOLUTIONS FOR OLD FINISHING PROBLEMS

ENTHONE CAN SHOW YOU HOW TO DO ANY OF THE FOLLOWING:

1. Remove rust and scale from steel in an alkaline solution ***without any attack on the steel***
2. Strip nickel, lead, tin, solder, silver and copper from steel without any attack on the steel
3. Electroplate on aluminum for soldering
4. Remove excess silver solder from steel
5. Phosphate and clean steel in one operation
6. Prevent rusting of steel during drying or storage
7. Shorten alkali cleaning time to seconds.
8. Strip enamels from plastics
9. Remove heat scale from copper alloys without etching the base metal
10. Chromate zinc and cadmium for high salt spray resistance

KEEP UP TO DATE. *Write for check list of Enthone literature on over 60 products and processes for better metal finishing.*

ENTHONE
INCORPORATED
442 ELM STREET
NEW HAVEN, CONNECTICUT

METAL FINISHING PROCESSES — ELECTROPLATING CHEMICALS

"Enchanted" Walnut sparks Contempra Collection by Mount Airy

The Divider Buffet used with the Bookcase section above, shows the great adaptability of the modern Contempra Collection by the Mount Airy Chair Co.

The "Enchanted" Walnut finish was created for Mount Airy in our studios, to become a part of this adaptability. Its tone must enhance both wood and design, yet adapt itself to use with other pieces. It must be tough to withstand the abuse of entertaining, yet be economical in production. Experience, research, and imagination are combined by our specialists to produce such a finish . . . custom created for the manufacturer.

The better the Finish, the better the Buy

GRAND RAPIDS VARNISH CORPORATION

GRAND RAPIDS, MICHIGAN

Makers of the Famous Guardsman Finish and Guardsman Cleaning Polish

NOVEMBER, 1952
Vol. XXIX, No. 1

ECA

A monthly magazine for finishing room and paint shop foremen, production superintendents, chemists, purchasing agents and company executives of industrial plants where product surface cleaning and finishing are major operations in the manufacture of parts and products.

Industrial FINISHING

W. H. ROHR, Editor **P. C. BARDIN, Associate Editor**

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29 TWENTY-NINTH YEAR OF PUBLICATION

Magnetic Lifter. A magnetic hand tool for handling steel parts can be quickly adjusted for pieces of almost any size or shape. It releases instantly at a slight twist of the wrist. Has almost unlimited life. A product of Multifinish Mfg. Co., Dept. 393, 2114 Monroe, Detroit 7, Michigan.

* * *

Trailer Boom. The nation's trailer coach population, already totaling 740,000 units (and housing 1,850,000 people), will be boosted to an estimated 815,000 by year's end, when 1952 production is expected to reach 75,000 additional mobile units.

The average trailer consumes some 450-lbs. of aluminum, ranging from screws and nails to sheet and tubing. In 1950 the trailer industry as a whole used an estimated 14,200 tons of aluminum. Trailer production that year was 63,125. Current output will represent a 19% gain over the 1950 figure.

Annual trailer sales have mushroomed from $1,300,000 since 1930, when the industry was born, to a present $142,000,000. More than 150 firms are currently engaged in the manufacture of the units, which range in length from 20 to 45 feet.

* * *

Measures Vibration. A new pocket-size instrument for accurately measuring the speed and amplitude of vibration on machinery or on bins and hoppers where vibration is produced intentionally to aid materials movement, is now available to the industrial field at the price of a fountain pen. Martin Engineering Co., Kewanee, Ill., has been given sales franchises for the new vibration "slide rule" called the Fowler "Vibra-Tak". It is only 6¼-in long.

* * *

Cleans Walls Better. One man with a special padded trowel connected by hose to tanks cleans 4000 square feet of wall and ceiling surfaces in one day, according to the company that makes a portable, wall washing machine. One tank has the cleaning solution; another tank, the rinse water. Low air pressure is developed by a built-in hand pump. No noise, no dripping or splashing.

* * *

No Spring Squeaks. Undesirable seat squeaking noises often found in automobiles are eliminated in the Ford Motor Co.'s new line by coating seat cushion tension wires with a vinyl plastic paste compounded from B. F. Goodrich Chemical's Geon paste resin.

The tension wires are coated at several spring companies, shipped to sub-assembly points to be made into the finished seat frames and then sent to the Ford Motor Co. where the padding and fabric are installed.

* * *

Wipes off Static. De-Stat Cloth is a new product designed to solve the problem of static electricity inherent in many industrial products. With a

TINTONE

From the Start Consider the Finish

For the clearest—richest most beautiful FINISH consider starting with DOLAN'S newest development in

WOOD FILLER

TINTONE

FILLER is the foundation for a perfect FINISH.

TINTONE provides a clear, clean transparent color, free from spotting, greying or hazing. It wipes easily—fills perfectly—reduces puffing and shrinking.

Final rubbing is minimized because of the smooth level surface provided by **TINTONE FILLER.**

Available in all shades of mahogany, Walnut and Blonde FINISH.

V. J. DOLAN & COMPANY, INC.

"Unquestionable Quality"

INDUSTRIAL FINISHES

1830 N. Laramie Avenue Chicago 39, Illinois

BErkshire 7-0100

Are You In This Fix?

Here's A Way Out-

Let POTTER help you save money safely on Thinners

We make nothing but **thinners**—For over a quarter of a century, we have been saving money for big and little customers. They like us because we make the thinner they want at a **money-saving price.**

Let us show you how a Lacquer Thinner **SPECIALIST** can supply you with the **right** Thinner . . . and still save you money.

Just fill out form below and mail today. We'll work out a Thinner *especially for you*, and send a sample. We know we can save you money.

POTTER PAINT CO., INC.
CORTLAND 1, N. Y.
THINNER SPECIALISTS

The product we make is:_____
We use Lacquer Thinner for:
☐ Spray ☐ Dip ☐ Cleaning ☐ Other_____
We use Lacquer Thinner on:
☐ Metal ☐ Wood ☐ Other_____
We want it to dry:
☐ Fast ☐ Slow ☐ Medium

Name_____
Address_____
City_____ Zone____ State_____

simple wipe, it removes all static charges and prevents their recurrence on such materials as plastics and plastic-base paints and synthetic fabrics used in automobile seat covers. It prevents static-caused dust from forming on these materials.

Measuring 18-in. square, the cloth is thoroughly impregnated with a chemical compound that will do a thorough and lasting job of destaticizing. If kept free from dirt, it can be used indefinitely. (Name of supplier on request).

* * *

Decorative Colors. "Mardi Gras," is a colorful new spatter pattern in Micarta, the durable decorative plastic sheet manufactured by Westinghouse. Decorative Micarta is available in six colors, including red, blue, green, yellow, light and dark grey. Mardi Gras was inspired by early New England home makers who decorated floors of their colonial homes with random spatterings of bright colors.

Designed specifically to fill the need for something completely new and different in plastic surfaces, the Mardi Gras pattern has a wide application in modern decoration.

* * *

Transparent Tarpaulins. The newest thing in tarpaulins is a thin light transparent sheet of tough plastic called "C-Line" polyethylene.

The unusual characteristics of this new tarp are: extremely light weight, 1/10 the weight of fabric tarps of comparable size; completely waterproof and mildew proof; pliable in all ranges of temperature; transparent yet tough and tear-resistant; easily washed and dried; will not absorb paint or liquids. Most important to those responsible for maintenance crews, the cost of "C-Line" tarps is roughly only 1/3 the cost of conventional tarps.

(Continued on page 123)

room with bath . . . $124.50 per day

Too much?
Recently a large appliance manufacturer found he'd been paying it for years—$124.50 per day for 10 spray booths! He found his dollars were being burned up by production shut-downs, extra time and money for maintenance, spoiled production, unreclaimable paint, and booth operating troubles. How much are these things costing you?

CUT COSTS with DuBOIS

SPRAY BOOTH MAINTENANCE

Here's what you get when you do business with DuBois:

1. Thorough analysis of your operations by trained and experienced personnel.
2. Installation of prescribed specialized compounds:
   KLARIFIANTS . . . water-wash compounds to effectively control overspray
   FILMITES . . . coatings for dry areas of spray booths
   STRYPP . . . for periodic purging of old paint deposits in the hydraulic system

FREE . . . authoritative reprint:

PROBLEMS OF SPRAY BOOTH MAINTENANCE

. . . . yours for the asking, a survey of the practical aspects of paint booth maintenance—how to save operating costs.

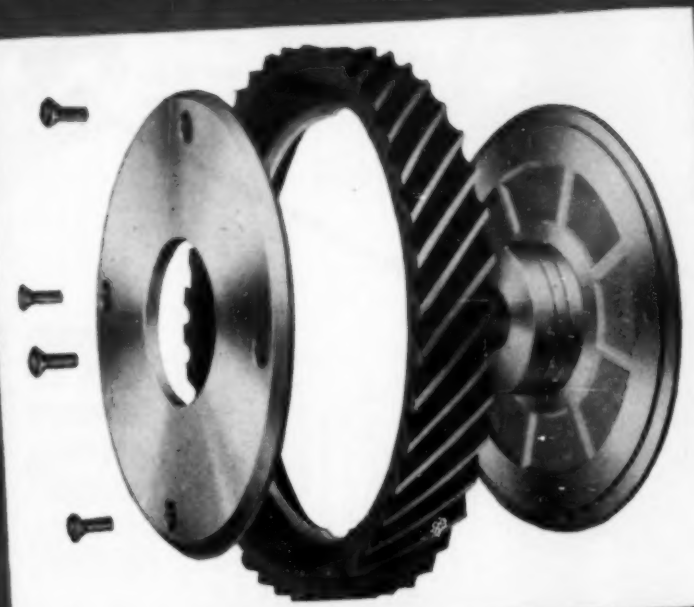
The DuBOIS Co., Inc.
Cincinnati 3, Ohio • Los Angeles 33, Calif.
Serving Industry Since 1920

USERS SAY

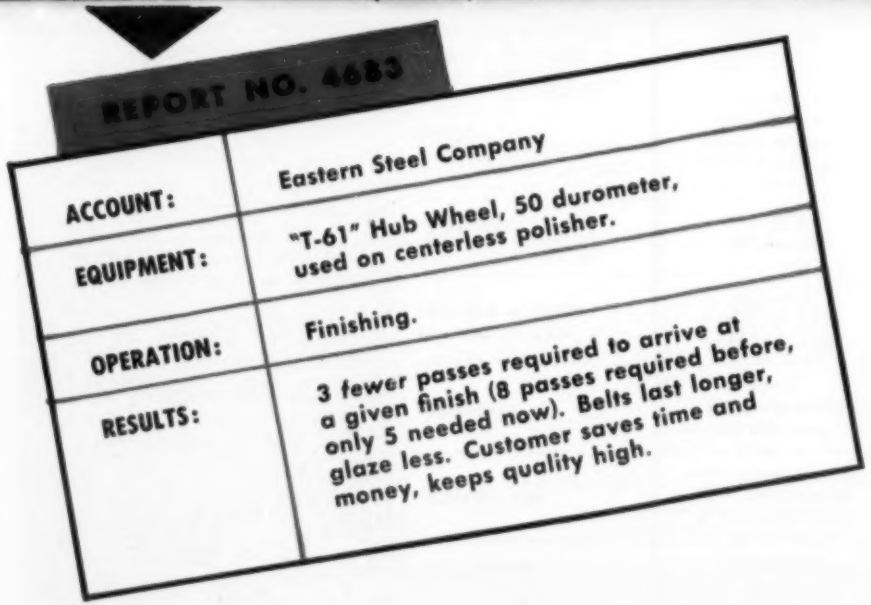
"T-61"

UNIVERSAL HUB CONTACT WHEEL

cuts Belt Grinding costs 3 ways



1. Belts cut better, last longer—*Saves Material*
2. Wheels cost less to renew—*Saves Money*
3. Tire changes made quickly—*Saves Time*


REPORT NO. 4683
ACCOUNT:
Eastern Steel Company
EQUIPMENT:
"T-61" Hub Wheel, 50 durometer, used on centerless polisher.
OPERATION:
Finishing.
RESULTS:
3 fewer passes required to arrive at a given finish (8 passes required before, only 5 needed now). Belts last longer, glaze less. Customer saves time and money, keeps quality high.

Three-way belt grinding economy can be *yours* with the "T-61" Hub Wheel. It costs no more than solid type wheels—less in some sizes. One hub takes up to 144 different tires of various widths and hardness. New tires cost no more than re-covering old style wheels, save down-time and eliminate extra shipping costs. You install them quickly, without removing hub from spindle. Serrated rubber face causes *controlled* breakdown of belt bond, improving cutting action and lengthening belt life. Get the complete "T-61" story from your CARBORUNDUM distributor salesman—or write Dept. IF 82-80.

Only CARBORUNDUM

TRADE MARK

offers ALL abrasive products ...to give you the proper ONE

"Carborundum" is a registered trademark of The Carborundum Company, Niagara Falls, New York

82-80

Judge Heating Equipment On Facts—Not Claims!

If you use process heating this easy comparison chart will show you how to:

1. Increase pay load realization by improving oven efficiency.
2. Improve quality and uniformity in your heating, baking and drying processes.
3. More effectively use electric heat at low cost for a greater variety of applications.

Use
JENSEN PAN-L-HEAT

DESCRIPTION	JENSEN PAN-L-HEAT	COMPETITOR B	COMPETITOR C
CONSTRUCTION	26" x 84" panel—draw out or rigid mount with complete oven enclosure	11" x 44" strips rigid or caster mount	12" x 48" panel 24" x 48" panel rigid mount
INSULATION	Steel wall with 4" filled insulation and air cell	Steel wall and air cell	Heavy composition wall and air cell
ELECTRIC HEATERS TYPE AND RATING	Tubular GE CALROD ® Locking plug-in type 2000-watts	Glass lamp, bi-post base with flexible leads 500 or 1000-watts	Tubular metal with flexible leads 1800-watts
PRINCIPAL ENERGY WAVE BAND	Long infrared 6—120 μ	Short infrared 4—30 μ	Long infrared 6—120 μ
TYPE REFLECTOR DESIGN	Chemically brightened anodized aluminum optical contour	Gold plated steel optical contour	Unpolished aluminized steel corrugated
INITIAL RADIATION (*) OUTPUT 0°-90° ZONE; percent total energy input	Model A—67.1 Model B—59.7	83.2†	37.2—Full input 32.9—¾ Input 28.4—½ Input

Better processing results with shorter heating cycles, at lower energy consumption, and less maintenance; often entirely automatic.

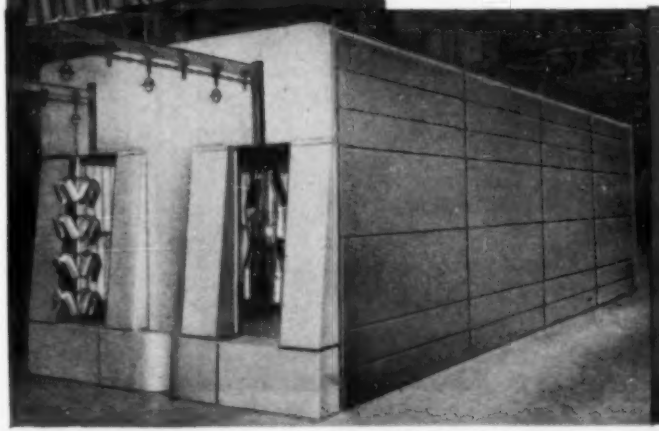
AVAILABLE FOUR WAYS:

1. Unit panels.
2. Booster oven sections.
3. Complete processing ovens.
4. More complete processing systems.

PERCENT RADIATION IN (*) 20°-60° ZONE; VITAL TO HEATING UNIFORMITY	Model A—73.3 Model B—74.5	32.1	56.0
ESTIMATED CONVECTION OUTPUT—percent of input	Model A—30.0 Model B—37.0	14.0†	59.0—Full Input 63.5—¾ Input 68.0—½ Input
TOTAL ENERGY INPUT (*) KW/sq. ft. at oven wall	Model A—2.77 Model B—1.106 (at full capacity)	1.19 (1000 W) 0.595 (500 W)	2.70—Full Input 2.025—¾ Input 1.35—½ Input
INITIAL RADIATION OUTPUT—KW/sq. ft. at working plane	Model A—1.86 Model B—0.66 (at full capacity)	0.990 (1000 W) 0.495 (500 W)	1.005—Full Input 0.666—¾ Input 0.383—½ Input
TEMPERATURE CONTROL	Full automatic temperature control to 700°F. (optional)	By repetition of heating load and time cycle	Manual control of input energy

*From reports prepared by Electrical Testing Laboratories—information available on request.

†Radiation diminishes to average 62% and convection increases to about 35% with normal use, due to absorption from exterior and interior contamination of glass bulb thru life. Frequent cleaning desirable.



SEND FOR 16-PAGE BROCHURE OF FACTS

Jensen SPECIALTIES, INC.

PAN-L-HEAT Ovens

ADVANCE HEATING DIV.

9331 FREELAND AVE
DETROIT 27, MICH.

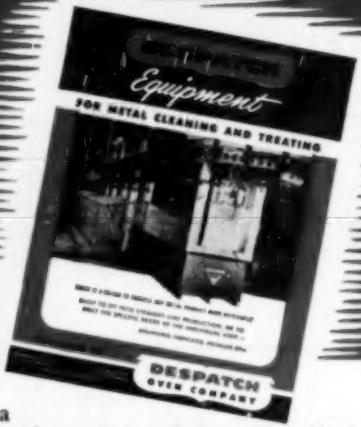
Get the facts on—

DESPATCH

Engineered

METAL WASHING EQUIPMENT

for your plant



No matter what your metal washing problem, whether it be a simple washing job, an intricate surface preparation, a space limitation, or what have you, there is a Despatch Metal Washer to take care of it, or one can be built for the purpose.

Washer Bulletin No. 68 will give you the facts on Despatch engineered metal washing equipment . . . will tell you how to select a washer . . . will show you metal washing systems built to meet specific needs . . . will convince you that you can save time and money with Despatch engineered metal washing equipment. Write for your FREE copy today.

DESPATCH *Engineers, Fabricates and Installs* COMPLETE FINISHING SYSTEMS TO MEET EVERY NEED

Because of space limitations, Despatch designed, fabricated and installed this complete finishing system on the factory roof for a leading mid-western refrigerator manufacturer.

Complete finishing systems designed and engineered by Despatch are at work in hundreds of leading industrial plants throughout the country. Engineered and coordinated to operate as single units, they consist of metal washers, dry-off ovens, paint spray booths, finish bake ovens, air make-up systems. They are turning out thousands of different products, large and small on fast, efficient production schedules.

Without obligation Despatch engineers will gladly analyze and advise regarding your finishing needs. Act today so that you'll be prepared tomorrow to cut production costs, increase profits. Write or wire to Dept. E.

Minneapolis Office: 619 S. E. 8th Street
Chicago Office: 4554 N. Broadway
Representatives in Principal Cities

FIFTIETH ANNIVERSARY

DESPATCH OVEN COMPANY

Why J. I. Case finishes farm combines with RINSHED-MASON ENAMEL

J. I. Case is another one of the world's largest farm equipment manufacturers using Rinshed-Mason enamels . . . because industrial colors carrying the Rinshed-Mason name are scientifically manufactured to exacting customers' specifications. Rinshed-Mason finishes are competitively priced and are delivered on time to meet the busiest factory production schedules.

We shall be glad to help you with your own color problems; just drop us a line.

RINSHED-MASON CO.

5935 Milford Avenue, Detroit 10, Michigan

1244 N. Lemon Street, Anaheim, California

In Canada: Standard Paint & Varnish Co., Ltd., Windsor, Ont.

Write today for your copy of a specially prepared U.S. Government Specification Finishes brochure

The Irwin Contemporary Collection is featured in the October issue of *House & Garden*. A unique feature of the line is its use of tubular brass, glass and white marble, with wood, in suggested settings of white or muted-color walls and clay tile floors to enhance the feeling of lightness and simplicity achieved with the furniture.

Irwin "features the finish"

to build sales on new McCobb-designed line

New Sandrift finish meets problems of retaining distinctive tone ... provides extra "plus" on sales floor

For their exciting new collection of contemporary furniture designed by Paul McCobb, the Robert W. Irwin Company wanted a finish that would give full play to the luxurious quality of mahogany.

The specifications: an unobtrusive finish that would retain the light, gray-green color of the wood —a finish that would resist darkening with age or exposure to light.

The result? Sandrift—formulated and developed with the help of Sherwin-Williams technicians. Irwin customers can *see* the wood in all of its natural beauty and depth of grain. The surfaces are enhanced by a highest quality, unpigmented, clear finish that does not obscure the interesting character that nature created. Beauty shines through to match the elegance of the design itself. Beauty, with permanence. Sandrift finish gives the Irwin line another important sales advantage, too. It enables the manufacturer to identify the finish on his quality products with the best-known name in finishes—Sherwin-Williams. Identification tags on every piece convey assurance to dealer and customer of a quality finish in keeping with the quality of design.

Sherwin-Williams tags, seals and decals are available to manufacturers using quality Sherwin-Williams product finishes, applied in an approved manner. They offer important added reasons for looking into the advantages of these outstanding product finishes.

Ask your Sherwin-Williams Representative for copy of new brochure B-767, *How to Make the Finish Help Sell the Product*, or write The Sherwin-Williams Company, General Industrial Division, Cleveland 1, Ohio.

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES

Protective Production Coating dried on Mass Basis with

BURDETT "RADIANT HEAT" OVEN

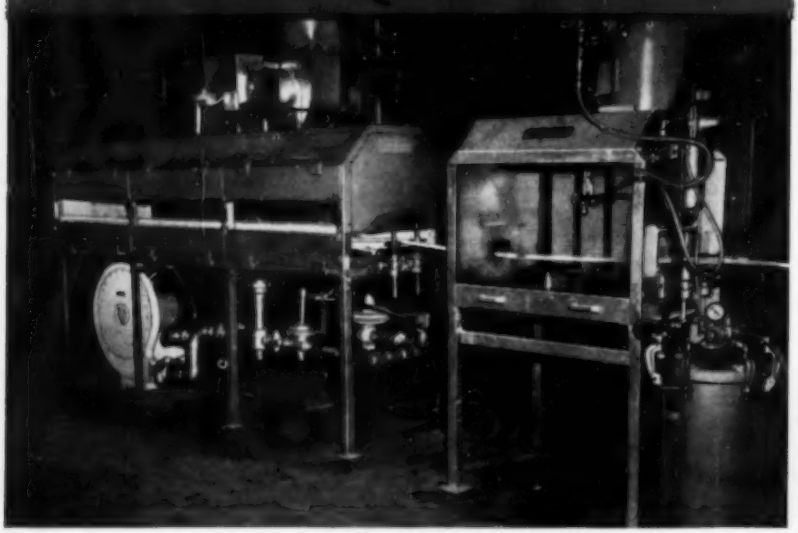


Photo courtesy of Metal Mouldings Corp.

● Here is another splendid example of the unparalleled advantages of Burdett "Radiant Heat," combined with Burdett engineering skill to solve unusual and delicate drying problems. Mar Proof Coating, a tough and extensible film applied to polished metals to prevent scratching and marring during roll forming, bending, stamping and other similar operations, required mass production application and quick-drying. This combination Burdett spray booth and "Radiant Heat" Oven permits continuous coating and instant drying. Metal may be coiled (or re-stacked, if sheets) immediately without danger of blocking. Whatever your drying problem may be — Burdett "Radiant Heat" will do it *faster* and *better!*

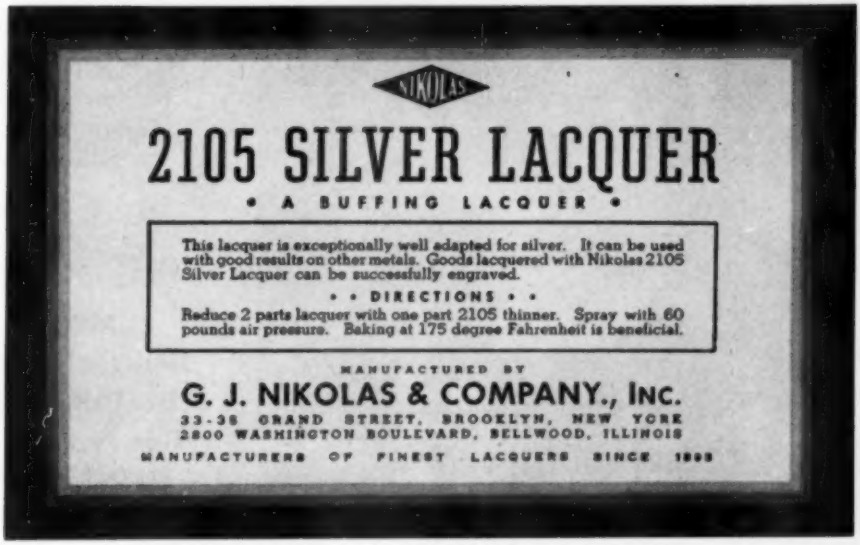
Send us your specifications for recommendations.

BURDETT
MANUFACTURING COMPANY
3425 West Madison St., Chicago 24, Illinois

Also Manufacturers of "Radiant Heat" Systems, Ovens, Heaters, Air Make-Up Units, Spray Booths and Washers.

QUALITY THAT SPEAKS FOR ITSELF

This Label is used for the finest clear lacquer yet produced for — Plated Goods — Silver Nitrate Films — Holloware — Cellulose Acetate Butyrate Plastic — Vaporized Metal Coatings — and many others.


NIKOLAS
2105 SILVER LACQUER
• A BUFFING LACQUER •
This lacquer is exceptionally well adapted for silver. It can be used with good results on other metals. Goods lacquered with Nikolas 2105 Silver Lacquer can be successfully engraved.
• • DIRECTIONS • •
Reduce 2 parts lacquer with one part 2105 thinner. Spray with 60 pounds air pressure. Baking at 175 degree Fahrenheit is beneficial.
MANUFACTURED BY
G. J. NIKOLAS & COMPANY., INC.
33-35 GRAND STREET, BROOKLYN, NEW YORK
2800 WASHINGTON BOULEVARD, BELLWOOD, ILLINOIS
MANUFACTURERS OF FINEST LACQUERS SINCE 1895

- **Fast Drying**
- **Water White**
- **Crystal Clear**
- **Non-Discoloring**
- **Excellent Adhesion**
- **Mar-Resistant Hardness**

For Full Information, write—

G. J. NIKOLAS & CO., Inc.

Manufacturers of Finest Lacquers Since 1895

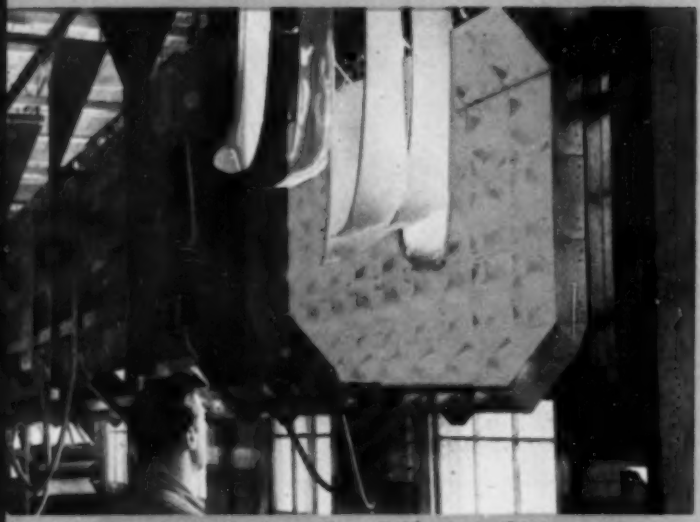
2850 WASHINGTON BLVD.
BELLWOOD, ILLINOIS

33 GRAND ST.
BROOKLYN, N. Y.

Proved in over 7.

MOST EFFICIENT OF

TYPICAL FOSTORIA OVENS



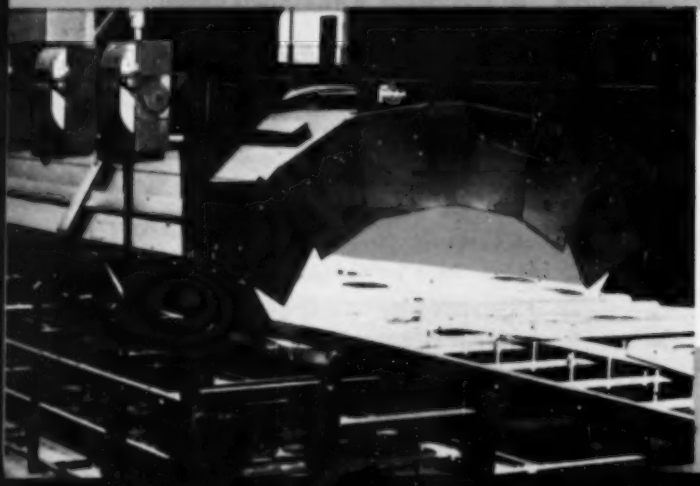
ABOVE — Casco Products, Inc., Bridgeport, Conn., reports reduced operating cost with Fostoria Infra-red. Drying is accelerated and uniform with improved quality of finish over other methods. Various sections of the oven are controlled separately. Ceiling suspension saves floor space.

INSTANT RESPONSE

No Warm-up Time
No Shut-off Lag
Fastest Baking Method

MOST UNIFORM HEAT DISTRIBUTION

Evenray Reflectors Prevent Streaks, Hot or Cold Spots



TO THE LEFT — Athens Stove Co., Athens, Tenn., uses Fostoria Infra-red for drying porcelain enamel before firing. They report (1) 4 times faster than other methods, 30 to 60 seconds drying time, (2) one-fourth less floor space, (3) cleaner, no combustion residue on work, (4) less maintenance, (5) thorough drying — no rejects.

THE FOSTORIA

Oldest

000 Plants

ALL FINISH BAKING OVENS

FLEXIBILITY CONTROLLED
Infinitely Variable Output from 0 to 100%

LEAST SPACE
Most Production for Oven Size May Be Ceiling Mounted

LOWEST ENERGY LOSS
Gold Plated Oven Walls Give 98% Efficient Reflection

SAFEST CLEANEST, FINEST QUALITY BAKING
Outperforms Any Oven of Any Type

LOWEST "PER UNIT" PRODUCTION COST
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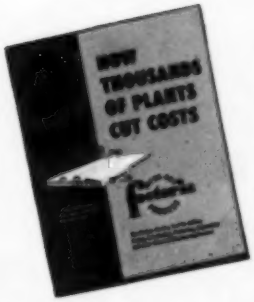
FOREMOST ENGINEERING "KNOW-HOW" *and* **FIELD SERVICE ORGANIZATION**

SEE EXHIBIT AT NATIONAL METAL EXHIBITION — PHILADELPHIA — BOOTH 1571



SEND FOR COMPLETE FACTS—Write for this brochure of technical facts on Infra-red with case histories of many installations. Tell us about your particular problem and we will include data directly applicable to your operations.

INFRA-RED fostoria OVENS

PRESSED STEEL CORPORATION, Fostoria, Ohio
and Largest Manufacturer of Industrial Infra-red Ovens

Sundstrand *Straight-Line Action* Air Sander saves time...gives more uniform finish!

Here's the proven, *better* way to sand filler on castings. New Sundstrand Single Pad Air Sander gives a fast cut . . . quickly, evenly removes high spots . . . and because of its compact size and *straight-line action* gets into close quarters, up next to edges and moldings. Results in exceptionally fine finish . . . ideal for many other sanding operations on wood, metal, or plastics.

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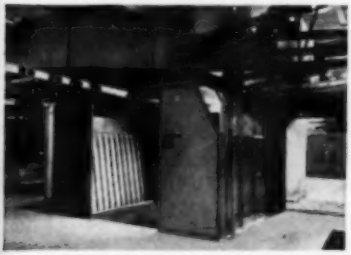
SUNDSTRAND AIR SANDERS

SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

Schmieg Complete FINISHING SYSTEMS

These photographs of SCHMIEG finishing equipment recently installed in the ultra-modern plant of a large manufacturer of kitchen equipment and other metal specialty items.

Above is SCHMIEG air supply equipment located in the building penthouse. During operation, doors in equipment enclosure are closed. Stack and fan is one of five stacks from spray booths on the floor below.



SCHMIEG Uni-Flow prime spray booth looking into booth from operator's side. Door in foreground is closed during operation of the booth.

General view of SCHMIEG Uni-Flow spray booth at exit ends.

ask the Engineers...

Why SCHMIEG Finishing Systems give best performance per dollar invested.

It's no secret that design experience and engineering skill have put SCHMIEG out in front, where careful planning and reasons of economy are most necessary for specific plant installations.

SCHMIEG Uni-Flow SPRAY BOOTHS offer important advantages in space saving and operating economy.

SCHMIEG Industrial OVENS are recommended by engineers who know, for hundreds of uses that save dollars in plant operations.

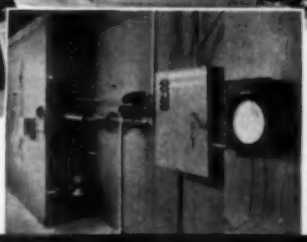
So also the SCHMEIG mesh-belt, conveyor type WASHERS, and the automatic circular types which time, index and rotate parts through wash, rinse and blow-off steps—operated by a single worker.

For the very best aids to efficient, money-saving industrial operations, ask the engineers who know*—about SCHMIEG. Then call in our engineers to design units ideally suited to your specific needs.

SCHMIEG Centri-Merge dust and fume elimination units have been acclaimed as the best solution to the problem of removing dust and fumes, in any industrial application.

**Write for folder giving partial list of users.*

Entrance end of rust-proofing machine. Exit end of prime and finish ovens. Note pusher conveyors to convey work through ovens.



External view of Dry-off oven. Direct fired heating equipment and circulating fans are located in offset section of oven. All controls are in panel in foreground.

THE best AIR PURGE is CENTRI⊖MERGE

Schmieg INDUSTRIES INC.

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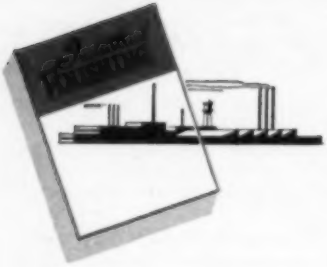


Our 29th Year of Publication

1953

ANNIVERSARIES and birthdays seem to come along faster as one gets older. It seems only a little while back that INDUSTRIAL FINISHING appeared in a silver-decorated front cover, celebrating its 25th Anniversary. That was in 1948; now the year 1953 is just around the corner. What was stated in review, on pages 28 and 29 of that November 1948 issue, still holds true, except that we are all four years older.

One thing not emphasized in our 25th Anniversary editorial is the extensive circulation of INDUSTRIAL FINISHING Magazine. The publication has readers in industrial plants all over the United States, Canada, Mexico, and in all foreign countries where there is any manufacturing that includes considerable use of protective or decorative coatings—along with surface treatment to prepare products for these coatings, and such after-coating treatment as rubbing, buffing, polishing, etc.

In the publication's extensive mailing list and in the daily office correspondence you see names of the "Who's Who" in manufacturing industries all over this country and abroad. Individuals with large concerns, and small ones too, look to

INDUSTRIAL FINISHING for specific information about materials, supplies, equipment, accessories and methods in the product painting and finishing fields.

During 28 years of publication, INDUSTRIAL FINISHING Magazine has earned an enviable reputation for the high quality and variety of its editorial contents, and for its many valuable services to readers and advertisers. The magazine has on its staff a full time traveling editor who visits factories to obtain material for illustrated articles of interest and value to readers and advertisers.

Timely articles also come in from engineers, chemists, technical men, production men and others located in various parts of the country. These men and the firms with which many of them are connected are proud to see their articles published in INDUSTRIAL FINISHING. Incidentally many such published articles result in the receipt of "fan mail" which every writer is happy to get.

Companies that have a new or really fine installation of equipment for surface treating and product painting or finishing operations, welcome an opportunity to have their facilities presented effectively to INDUSTRIAL FINISHING'S readers.

Just to cite a typical example of what we mean, let's quote three short letters from a Who's Who firm. You all know The Foxboro Co. of Foxboro, Mass. Last July the Editor received the following letter from Foxboro:

"Within the past month there has been installed in our Finishing Department, the first Spray Bonderizing unit under automatic control. It is a big installation, and everything about it is right up to the minute. Naturally we are very proud of it.

"Now that the department has been tidied up, we have had three photos taken, to accompany a 1200-word article by the Foreman and Assistant Foreman of the department. We have prepared this with INDUSTRIAL FINISHING in mind and will be able to send it for your examination in a few days, as soon as it clears our legal and patent departments.

"If for any reason you do not think you can use it, will you be good enough to advise us, so that we can make other arrangements?"

The Editor immediately invited Foxboro to send in the story and pictures. In due time the article arrived. It was accepted, edited and published in September 1952 issue. When executives of the Foxboro Co. saw it in the magazine the company promptly wrote us as follows:

"Everyone here at Foxboro is delighted with your handling of the article on 'Surface Treating Instrument Parts Under Automatic Control'. It was an excellent presentation and I would like to add my thanks to those of the authors, for the enthusiastic way you received it.

"The only difficulty is that the two copies of your September issue, which we have, are rapidly becoming collectors' items and I am having difficulty in holding onto them for my files. If it were possible to arrange for about a dozen copies of the issue, we could make Mr. Twigg, Mr. Sweet and their collaborators even greater boosters of their favorite magazine.

"My personal thanks for helping to solve an urgent, yet happy problem."

Fortunately we happened to have made a small over-run of September

CARL-MAYER OVENS

Carl-Mayer exclusive design and patented features ensure the most efficient operation and outstanding fuel economy. Many installations.

Write for Bulletin No. 350

Enamel Drying, Japanning, Lacquering, Ceramic Drying

THE CARL-MAYER CORP.
3030 Euclid Avenue Cleveland, Ohio
Over 30 Years' Experience

TRY ME OUT
IN YOUR FINISHING
DEPARTMENT!
Improved
DETROIT
HANDY "TAC" RAG
NON INFLAMMABLE
The best way to remove all dust, lint and sand particles before painting. Detroit Handy "Tac" Rags are ready for instant use. Never harden or dry out. Save labor and materials. Improve the finish. Eliminate costly rejects.
Recommended by your trade everywhere!

Standard of the FINISHING INDUSTRY Since 1934
DETRO MFG. & SALES CO., CULVER CITY, CALIFORNIA

issue, so we had a sufficient supply available to forward the 12 copies requested. Then came Foxboro Co.'s third letter:

"We have just received the 12 copies of your September issue containing the article on Bonderizing of instrument parts.

"The copies arrived in good shape and I've been asked to pass along thanks from those who received them here at Foxboro. It was kind of you to send them and we appreciate it.

"Again, our thanks for the excellent presentation of our article."

So, in going into our 29th year, with an abundance of evidence from everywhere that the magazine is held in high esteem by its readers, its advertisers and all prospective advertisers, the publishers feel well rewarded for their efforts—and are grateful indeed for the encouragement, support and cooperation of all who have helped and are helping to make INDUSTRIAL FINISHING Magazine what it is today. Many call it "the Bible of the Industry".

Interested Down Mexico Way?

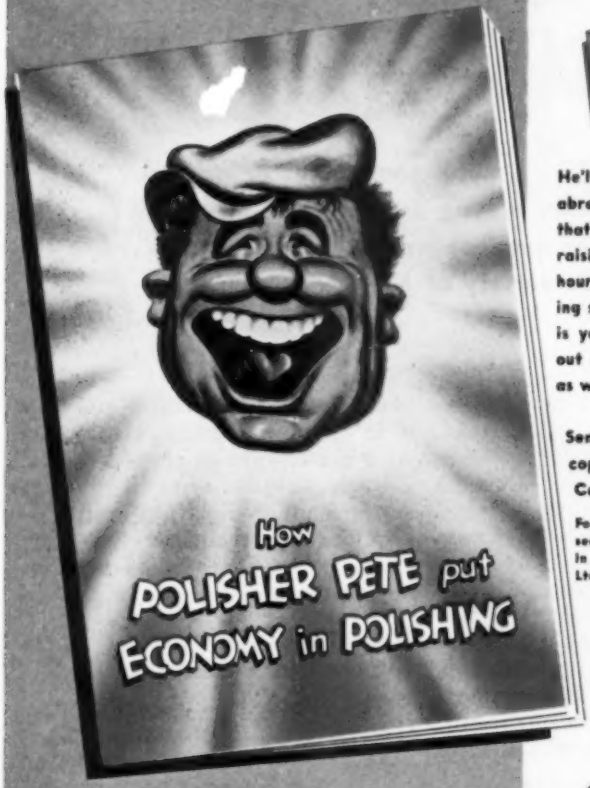
With an eye helping U. S. industry find efficiently what it wants in Mexico City, Foster D. Snell de Mexico is now offering its contacts, offices and experience to business and professional people who want to avoid frequent and costly trips to Mexico.

The Snell organization began its new activity in Mexico over two years ago . . . During this period, its office in Mexico City began to see other problems in the guise of the harried U. S. businessman who wants to accomplish a great deal in a short time and very often makes unsatisfactory and hasty arrangements.

This calls for someone with a strong Mexican background to help lay the groundwork. This new service will help with all manner of details during and following the businessman's trip to Mexico.

Inquiries on this service will be answered either by Foster D. Snell, Inc., 29 W. 15th St., New York 11, N. Y., or by Foster D. Snell de Mexico, Apartado 20.609, Mexico 6, D. F.

MEET POLISHER PETE!



He'll give you the latest on modern abrasive belt polishing techniques that are producing finer finishes, raising output and slashing man hours and production costs in plating shops everywhere. If polishing is your business, you'll get a kick out of reading "Polisher Pete"—as well as a wealth of information.

Send the coupon for your free copy today to Behr-Manning Corporation, Troy, N. Y.

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Wash Primer

Wash primer, a metal conditioner or primer pre-treatment coating developed to increase the adhesion between metal-protective paints and a wide variety of hard-to-finish metals.

WASH primer, a truly unique finishing composition, was born during the last war and served exclusively on the military scene. It is now rapidly coming of age in industry. Wash primer was originally developed by the Bakelite Division of Union Carbide & Carbon Corporation as a highly adhesive undercoat for Navy vessels for subsequent overcoating with hot plastic bottom paints. This primer has shown excellent performance in actual marine service now well into the fifth year.

These results early indicated the potential merits of wash primer in industrial and maintenance systems, but its adoption has come about more slowly than might have been expected, probably because of the unfamiliar basic nature of the new chemical coating.

Wash primer perhaps might be more accurately described as a metal conditioner or, as the Navy terms it in its specification MIL-C-15328 A, *a primer pre-treatment coating.* Its sole purpose is to increase the adhesion of the coating system. It provides only temporary protection against corrosion and is therefore not recommended as a single coat.

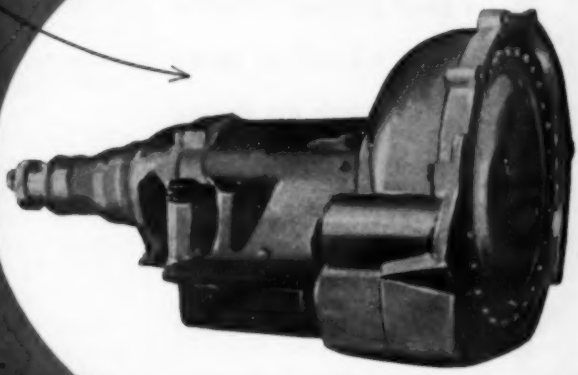
Helps Paint Job on Metal Exposed to Weather

The petroleum industry is using the material extensively for pipe lines, oil storage tanks, and drilling platforms. Elsewhere it is providing excellent adhesion between metal-protective paints and a wide variety of hard-to-finish metals such as stainless steel, aluminum, zinc, cadmium, tin, magnesium alloys, and galvanized iron.

A well-known brand of aluminum siding for prefabricated houses is wash-primed. Metal articles which are coated in the flat and are then

Protection by

TOUSEY!



TOUSEY Casting Sealers are used by many leading automotive equipment manufacturers to protect automatic transmission cases against abuse from hot oil, dirt, rust, vibration and extreme changes in weather. These sealers are non-toxic, quick drying, and will not crack or flake away from machined surfaces. ★ Tousey's strict control of raw materials and rigid standards of production are additional forms of protection offered its many friends and customers.

TOUSEY PRODUCTS

CASTING SEALER

TOUSEY VARNISH COMPANY

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BoGard FINISHES formula A-151

BoGard brush or spray ALUMINUM PAINT

PERFORMANCE-PROVED ALUMINUM PAINT... THE FINEST PRODUCTION AND MAINTENANCE FINISH YOU CAN USE

- chrome-type brilliance
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- ready to use
- good package stability
- brush or spray
- quick air drying
- bakes on any schedule
- extreme durability
- minimum smudging
- exceptional coverage
- practical price

Developed in the Body Bros. laboratory and proved in the field... Air-dries rapidly... Bakes in most conventional schedules to a remarkably hard, brilliant and durable finish. Write today for a generous sample of BoGard No. A-151 Aluminum Paint.

BODY BROS., INC.
BEDFORD, OHIO
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formed (signs, for example) find the added adhesion obtained goes a long way toward solving what was once a very serious problem in the forming operation. Studies are in progress in the aircraft field, especially in connection with present-day, high-speed aircraft where the impact of rain on lead edges rapidly breaks away conventional systems.

What it's Made of, and How it's Applied

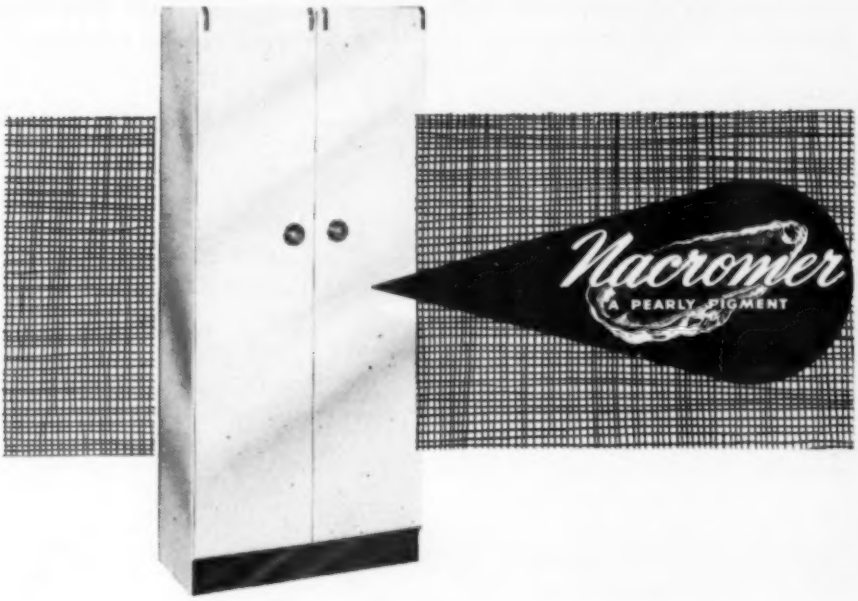
Wash primer, normally green in color, is essentially composed of basic zinc chromate pigment in a polyvinyl butyral vehicle*. It is thinned, on the job, with a solution containing phosphoric acid. Wash primer is supplied in a two-compartment container consisting of resin component and acid component. The latter is added slowly with stirring and the mixture must be used within eight hours.

Moreover, after spraying, brushing, or roller coating, the conditioned metal should be prime coated within 24 hours. It is sufficiently dry for priming within 30 minutes, a speed permitting great economies in drying schedules. The pretreatment may be applied to damp surfaces but not to wet surfaces.

It is important that the solution be applied to clean metal surfaces free of loose mill scale, corrosion products, or grease. Some vinyl topcoats require a special intermediate coat to obtain good adhesion.

At times wash primer has a tendency to "string" or "cob-web" when sprayed. The addition of about 10% butanol minimizes this

*Polyvinyl butyral resin is the material used as the tough adhesive and shatterproofing element in safety glass for automobiles.



A NEW FINISH FOR KITCHEN CABINETS

Add Nacromer to lacquer plus transparent pigment and get a lustrous finish that adds tremendous eye-appeal. Nacromer adds a lustre and sparkle almost comparable to natural pearl essence at **a fraction of the cost.**

Test this dramatic finish on your product—**refrigerators, appliances, jewelry, office equipment**—any product made of wood, metal or plastic. Describe your product and we'll send a generous working sample. **Write today.**

the *Mearl* corporation

"World's Largest Producers of Pearl Essence"

153 Waverly Place New York 14, N. Y.

difficulty. Air pressure at the spray gun should also be kept low enough to maintain a wet spray over the entire distance of the spray travel.

The reason why this resin-chromate-phosphate solution exhibits such outstanding adhesion is attributable, first, to the tough and adhesive properties of the resin itself; second, to the slight etching of the metal surface by the acid component, thus providing excellent anchorage. Also, when applied over steel, the rust-inhibiting film of iron phosphates, caused by the action of the acid on the metal, helps develop a tight, adherent bonding surface for overcoating.

R. J. Reagh is Made Sales Rep. for Rinshed-Mason

Ronald J. Reagh, formerly Director of Industrial Relations at Rinshed-Mason Co., Detroit, Mich., has been appointed Sales Representative for the company, to contact manufacturers in northeastern Michigan.

Fowler Named Sales Engineer for Hy-Klas Paints

Harold M. Fowler has been appointed sales engineer with the Merchants & Manufacturers Paint Co., 110 So. 2nd St., Louisville, Kentucky.

Mr. Fowler is well known in the paint industry, having spent the past 35 years working both in Cleveland and Louisville. His work in formulating, production and servicing of industrial paint accounts qualifies him for his new position as sales engineer. He will call on company accounts in the greater Louisville area where his specialized knowledge of paint and industrial finishes will be of prime importance.

A. G. Carr Completes 15th Year With Nat'l Paint & Lacquer

Mr. Anton G. Carr, Chief Chemist and Secretary of the National Lacquer & Paint Co. (Chicago) completes his 15th year as a company employee. Mr. Carr was honored at an informal party in the general offices, Wednesday, October 29, 1952. Paul A. Meyer, President and General Manager, presented Mr. Carr with a new camera.

Dallas Paint Club Elects New Officers

At the Sept. 30th meeting of the Dallas Paint Club, new officers for the period of Oct. 1, 1952, through Sept. 30, 1953, were elected. They are:

President, Mr. James H. Robbs, Manager Industrial Chemical Department, Van Waters & Rogers, Inc.

Left to Right, top: J. C. Webb and D. E. Eichelberger.
Left to right, bottom: Wade Martin and James H. Robbs.

Vice President, Mr. D. E. Eichelberger, Gen. Mgr. of Sewall Paint & Varnish Co.

Secretary, Mr. Wade Martin, Southwest Sales Manager, Pigment Div'n., Eagle Picher Sales Co. of Texas.

Treasurer, Mr. J. C. Webb, Dallas Sales Mgr. of Sherwin-Williams Co. of Texas.

The Dallas Club (40 members) meets the last Tuesday of each month at the Melrose Hotel, the meeting starting at 6:00 P.M. Meeting of other clubs, suppliers, etc., are invited as visitors.

Baked Finish Results with an Air-Dried EPON RESIN Enamel!

HERE'S a new corrosion-resistant finish . . . which contains its own curing agent!

With this amine-cured Epon® resin coating you can spray surfaces of any size . . . in any location . . . and, at room temperature, get toughness and corrosion resistance equal to that of finishes requiring high-temperature baking.

So easy to apply! A single heavy coat of an amine-cured Epon resin finish is practical since the finish converts itself! Conventional finishes require several coats to build up to proper film thickness . . . because air contact is necessary for drying.

All of the advantages of Epon resins . . . extreme durability, abrasion resistance, elasticity, high corrosion resistance, and excellent cold check resistance . . . are also present in this new coating.

Drop us a line for our technical bulletin on Epon resin formulation XA-200 and samples of Epon resins.

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Toronto • Montreal • Vancouver

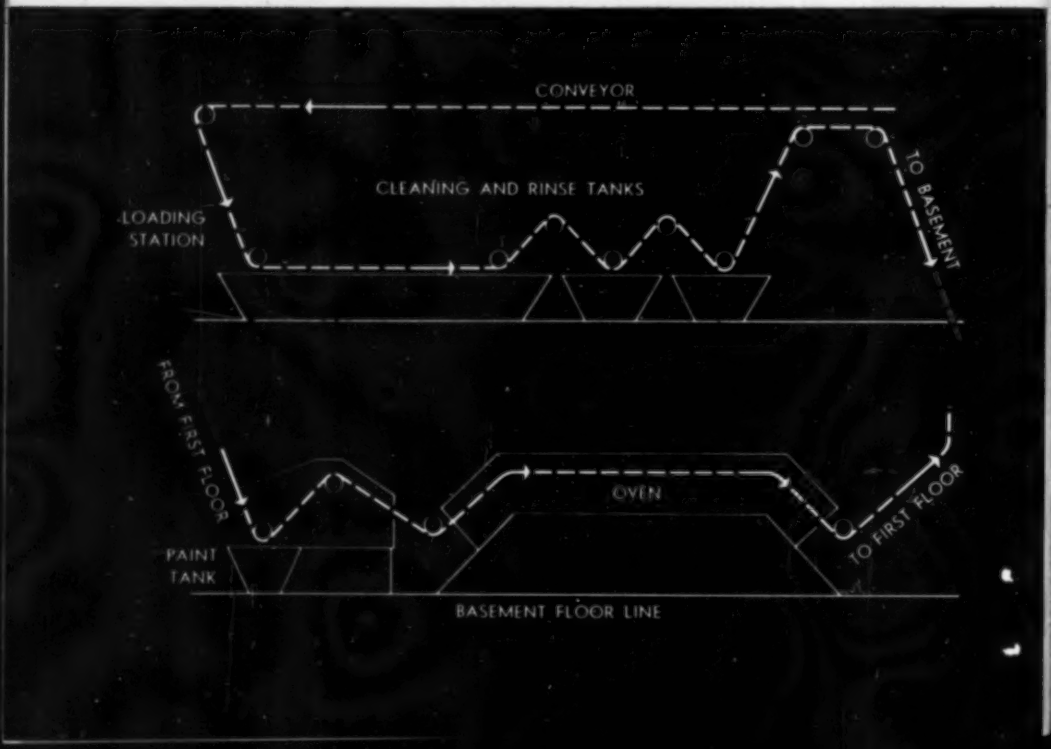
Cleaning, Dip Coating, Baking Included in Conveyorized Setup

THE ACCOMPANYING diagram and pictures show a compact mechanized setup for cleaning and treating the surfaces of metal products, dip coating them and finally baking the paint or enamel. While it is adaptable to processing a variety of different products, it was designed specifically for cleaning and applying a baked white enamel on refrigerator trays.

By ROY W. NEW, Engineer
The Kirk & Blum Mfg. Co.

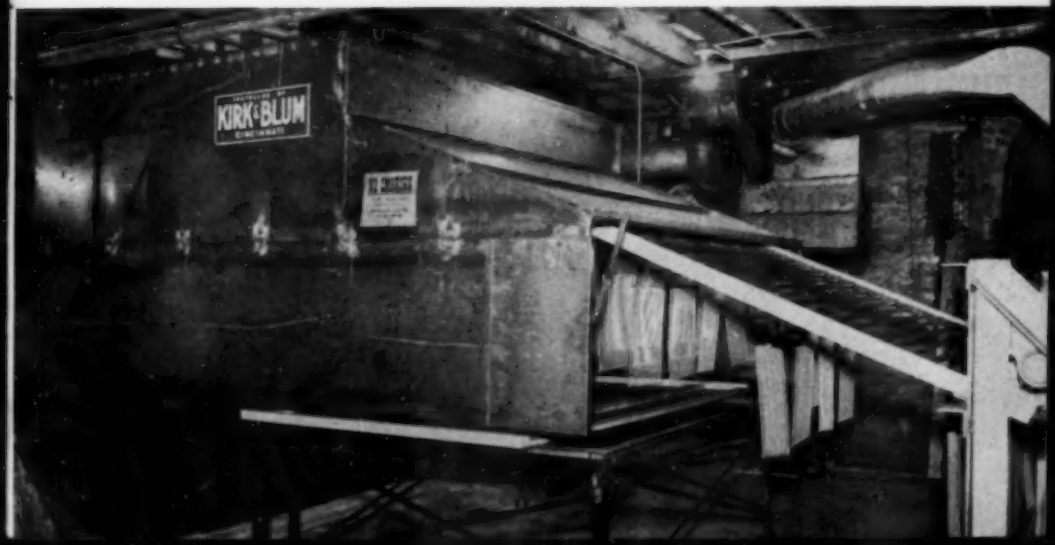
The loading station, surface treating equipment and dry-off oven are on the first floor. The same crossbar chain conveyor carries the cleaned metal products down to the basement, moves them through a

The complete equipment occupies space on the first floor and in the basement, but what is on the first floor is not directly above what is in the basement, as is shown here. The top half of this drawing should be moved over to the left so that its right hand side, where the conveyor descends toward the basement, will align with the left hand side of the lower half of the drawing, where the conveyor is marked "From first floor".



In right foreground is the loading station where the crossbar conveyor is moving down and then forward on a level, as it carries work through the cleaning and surface treating tanks. In left background the work is coming up from the last rinse tank; it will pass through a dry-off oven and then move down to a lower floor for the dip-coating and baking operations.

Here is the dip coating setup. At left, conveyor moves down from above, carrying work to and through the dip tank. At right the dip-coated trays are about to enter the oven.



dip tank to coat them with white enamel, then through a space where surplus enamel drains off, and finally through an A-type gas-fired oven where the white enamel is baked for 20 minutes at 250° F.

Leaving the oven the conveyor returns the completed products through a cooling zone to the first floor where they are removed from the conveyor, inspected and packed for shipment.

The dip-coating and drain section is enclosed and vented to the outside. In case of fire, a CO^2 fire protection system goes into action to smother the fire; at the same time the contents of the enamel tank are automatically released and dumped into an underground tank.

The oven is a direct gas-fired recirculating type unit, automatically controlled, fully protected, and electrically ignited. Heated air is forced into the oven by means of a recirculating fan. Fumes and products of combustion are removed by an exhaust fan and a stack extending up through the roof.

National Spray Painting & Finishing Equipment Ass'n.

The National Spray Painting & Finishing Equipment Association was reactivated and reorganized recently at a series of meetings in the Conrad Hilton Hotel in Chicago.

The initial session was attended by 16 representatives of leading companies in the industry.

A summary of the association's activities since its founding in 1924 was given by Warren Beach, vice president of the Eclipse Air Brush Co.

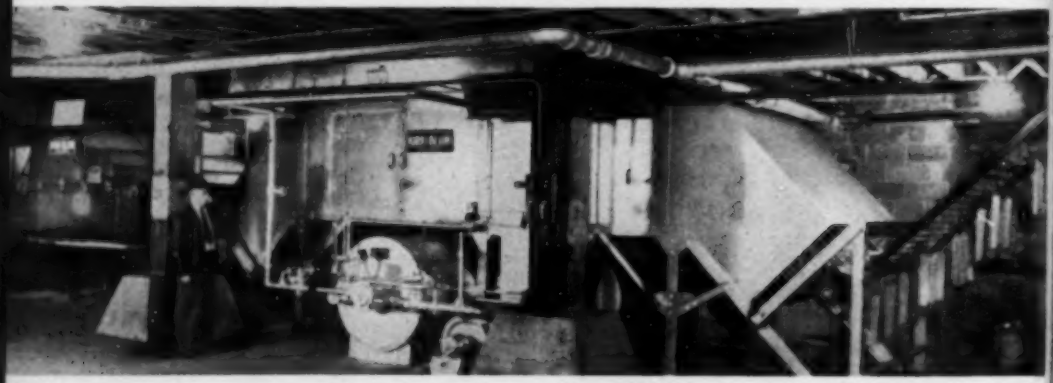
Members unanimously adopted a resolution to accept associate members from companies in related types of finishing equipment manufacture, such as exhaust equipment, pumps and heaters.

Officers elected were: president, Reginald B. Hiley, president of the Black Mfg. Co.; vice president, Alan F. Sharpe, president of the Sharpe Mfg. Co.; treasurer, T. L. McCorkle, M & E Mfg. Co. Members of the executive committee, in addition to the officers, are William Starbuck, sales manager of the Kellogg Division of American Brake Shoe Co., and Frank R. Pitt, secretary of the DeVilbiss Co.

Companies represented at the sessions in addition to those just named were: Binks Mfg. Co., Campbell-Hausfeld Co., Decora Mfg. Co., Electric Sprayit Co. and Paasche Mfg. Co.

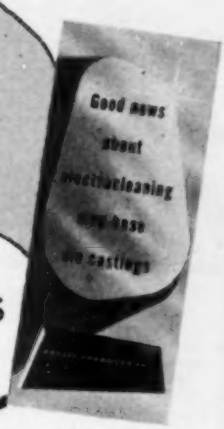
Frank Pitt, acting secretary, reported that the next scheduled meeting of the group will be in Chicago on January 21, 1953. At that time reports will be presented by the various committees as to how the spray finishing industry can be further serviced to finishing processes. There will also be recommendations made concerning a permanent location for offices and executive staff personnel.

A view of equipment in the basement; far to the left is the dip-coating enclosure, then the entrance to "A" type oven, the long oven, and finally, at right, the exit end of the oven.



JUST HOW GOOD IS OAKITE'S NEW CONDITIONER FOR ZINC DIE CASTINGS?

IT HAS CUT OUR CLEANING REJECTS BY MORE THAN 90%



Yes, that statement was made by one of the manufacturers who cooperated in the field-testing of Oakite Composition No. 95.

He has found many advantages in this new anodic conditioner. Some of these advantages may be of value to you:

Brighter plating—Anodic conditioning with Oakite Composition No. 95 removes all films that might impair the brightness of the electroplate... no interfering residues... no under-surface shadows...

No anodic blackening—Castings do not lose their buffed-on brightness.

Fewer rejects—Oakite Composition No. 95 eliminates the major causes of peeling and blistering... consistent success in test-baking for 60 minutes at 300° F.

FREE For a copy of *"Good news about electroplating zinc-base die castings"*—describing the use of Oakite Composition No. 95—write to Oakite Products Inc., 32F Rector St., New York 6, N. Y.

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SOURCES OF SUPPLY . . .

Speedy Service plus Personal Attention

One of a fleet of 5,000 gallon transports—this one from Chicago's Central Solvents

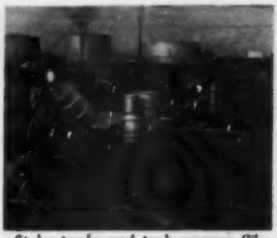
Personal attention is the one thing that customers value most. Unfortunately, a rapid growth in size usually reduces the amount of personal attention available. This needn't be the case, as illustrated by the 11 members of the Solvents & Chemicals Group. The Group delivering millions of gallons of solvents and tons of chemicals to industry throughout the Midwest has licked the bugaboo of big company immobility

The ability to move quickly, to meet each situation is provided for by permitting each member to operate as an individual company Yet, because of the tremendous distribution facilities available in key markets serving paint, metal working, graphic arts and chemical compounding industries, many leading chemical producers have chosen the Group to represent them.

SPEEDY DELIVERY. One factor that most firms appreciate is the promptness in shipping which all members of the Group offer. In most cases, orders are delivered within a 24-hour period. In cases where a product is not available locally shipments frequently can be rushed from the nearest Group member having adequate supplies. Thus, local shortages can often be overcome in cases of emergency.

WIDE RANGE OF PRODUCT. The basic concept in the Group's organization has been to provide a complete line of products in its field. Among the many products available, Group members offer 9 chlorinated solvents in various grades, 14 aliphatic petroleum naphthas, 10 aromatic solvents and 20

Laboratory facilities like this at Indianapolis' Hoosier Solvents are used to assist with customers' problems as well as maintain quality control.



Stake trucks and tank wagons (like these from Buffalo Solvents) provide speedy delivery of drum and bulk solvent promptly pick up drums.

Orders delivered within 24 hours in most cases from stocks as those at Milwaukee's Wisconsin Solvents.

Like other members, Cleveland's Ohio Solvents offers a catalog system listing properties on all products marketed.

different plasticizers. Because of this wide range of product, Group members can select and suggest the specific product that will best meet the customer's need. Whether it's a solvent for coatings, or for inks or a solvent for cleaning, you get the right product from your Group member

QUALITY CONTROL. Keeping abreast of new products and meeting customer problems has developed a unique set of facilities for the Group. Laboratory facilities are available not only to check incoming products but to offer technical assistance on solvents and chemicals on request. Laboratory assistance right in the market helps many salesmen whose companies are Solvents & Chemicals Group customers.

SUPER SERVICE. The specialized attention given by the Group has resulted in a constantly increasing demand by industry. For the complete story of what the Group has to offer your firm, readers are invited to call or write their nearby Group member.

FOR BETTER SERVICE

CALL ON THE SOLVENTS & CHEMICAL GROUP

ALCOHOLS • ACETATES • KETONES • TERPENE SOLVENTS
WAXES • AROMATIC SOLVENTS • NAPHTHAS • CHLORINATED SOLVENTS • PLASTICIZERS • STEARATES
ROSINS • DETERGENTS • ALKALIES • GLYCOLS • AMINES

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WESTERN

SOLVENTS & CHEMICALS COMPANY

A MEMBER OF THE SOLVENTS & CHEMICALS GROUP

In Detroit or Toledo, it's Western Solvents for speedy service . . . specialized attention. For over 39 years Western Solvents has provided the Detroit-Toledo areas with solvents and chemicals from America's leading manufacturers. Whether you manufacture paints, lacquers,

adhesives or chemical specialties . . . whether you use solvents for metal cleaning, thinning inks or for reducing organic coatings . . . whatever the application, Western Solvents will suggest a product most likely to meet your needs. If you are in the Detroit or Toledo area, call or write Western Solvents the next time you order.

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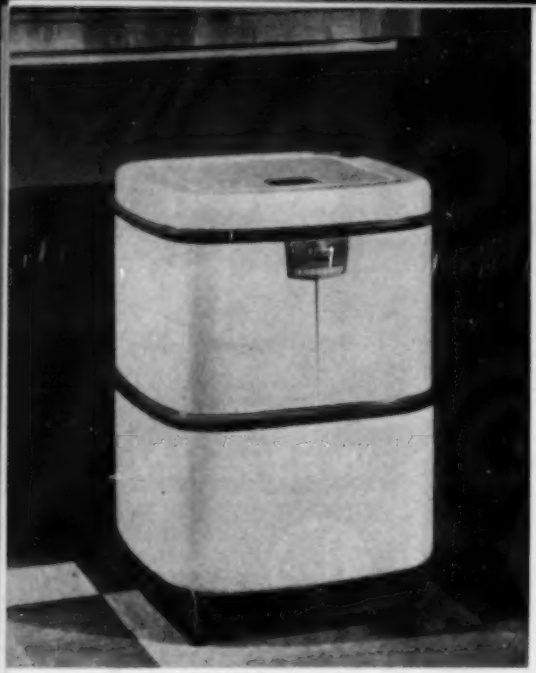
DETROIT 11, MICHIGAN
Telephone: WAlnut 1-6350

CENTRAL & REYNOLDS RD.
TOLEDO, OHIO
Telephone: JORDAN 0761



Finishing THOR Automatic Washers

BY MILTON NADESS
Finishing Foreman

NOTHING is mysterious or even difficult about putting a real high quality finish on products manufactured today. First, you establish the system in detail, from the power washer through the final bake oven, keep the finishing room spotlessly clean, and then follow sound rules of production finishing to the letter. That is all there is to it. Of course, the equipment must be efficient and adequate for the volume of production desired. Clean surfaces to finish, clean equipment and, in fact, "clean everything" in the finishing room—all of these are vitally important where a high quality finish is required.

Automatic Washer Parts Are Cleaned and Rustproofed

First, we must have a thoroughly clean surface properly prepared to receive and hold the paint. All of our automatic washer parts go through a 5-stage power washer where the various solutions and rinses are sprayed on the parts from four sides of the washer at 25-lbs. pressure. Each solution is titrated every two hours around the clock. Here is what takes place in the power washer:

1) Alkali cleaner (¼-oz. per gallon concentration) heated to 180° F.

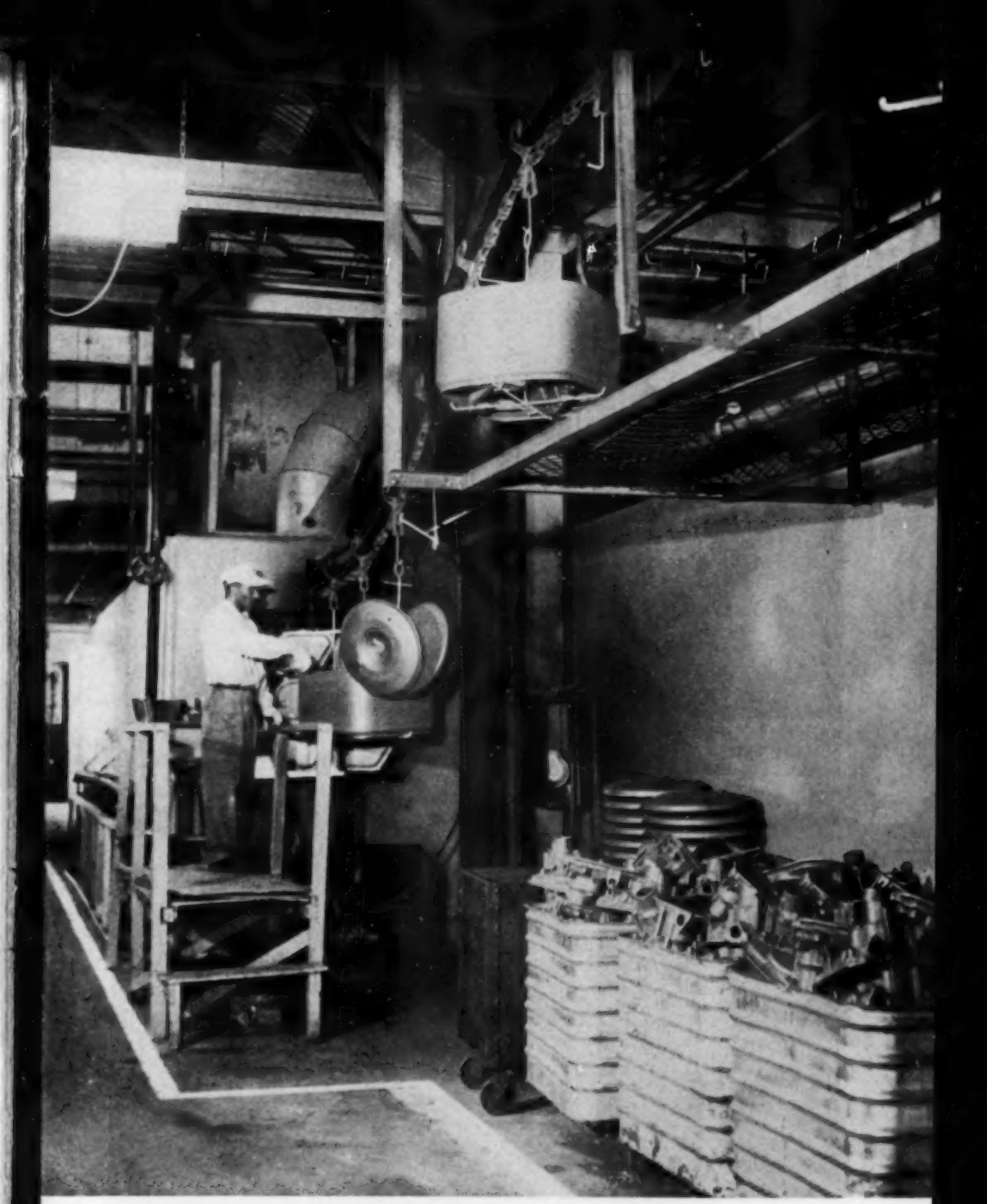
2) Hot water rinse (overflow type tank) 160° F.

3) Rustproofing solution (1¾ to 2-oz. per gallon concentration; pH 3.8, never over 4.5) 150° F.

4) Warm water rinse (change once a day) 125° F.

5) Phosphoric-chromic acid rinse (2-lbs. chromic and 1-qt. of phosphoric per gallon; drain and change twice a day) 150° F.

The wet cleaned parts enter a direct-fired gas oven to dry for 1½ minutes at 450° F. At the exit end



Using compressed air to blow off entrapped rinse water from parts leaving dry-off oven.

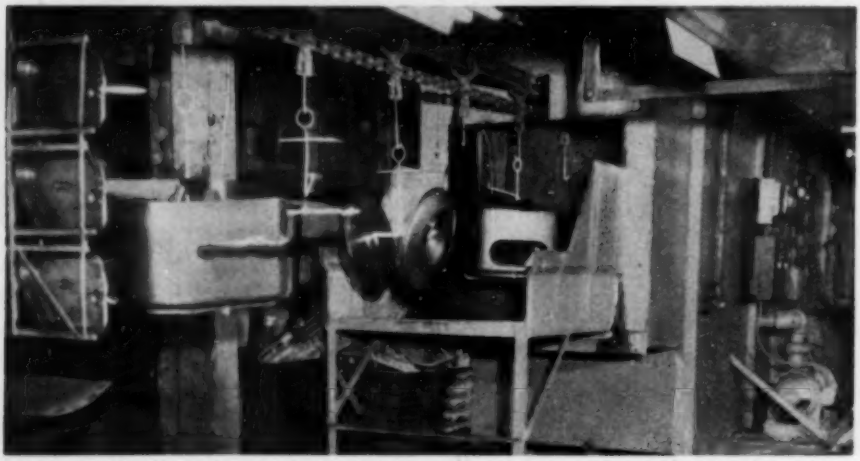
A power hoist lifts dipped parts from tank of white enamel. Operator will hang this batch of dipped parts to overhead conveyor which carries it over a drip pan to oven.

of the dry-off oven an operator blows off any entrapped water with compressed air, and since the metal is hot, any remaining moisture disappears quickly.

Some Washer Parts Are Dip Prime Coated

Automatic washer parts cool as they continue by overhead monorail conveyor, which is driven through a variable-speed drive at 12-ft. per minute. Hooks are spaced on 30-in. centers. Because of the construction of certain washer parts, they are particularly adapted to dip coating. This applies especially to some of the inside washer surfaces which have metal projections. These parts are removed from the overhead conveyor by an air lift and dipped into a white synthetic primer which is kept at a viscosity of 17 seconds at 78° F., as measured by a No. 4 Ford cup.

The viscosity of the material in the 50-gallon dip tank is tested at



Here you see pressed steel parts entering the five-stage power washer where they will be cleaned and rustproofed. Photograph, courtesy of G. S. Blakeslee & Company.

Battery of Paint Baking Ovens.
A-Type Continuous Paint Baking Oven.
Continuous Dry-Off Oven.
LANLY
FINISHING OVENS
THE LANLY COMPANY • 760 PROSPECT AVE
CLEVELAND, OHIO
Continuous Monorail Oven with Air Seals.
LANLY Specialized engineers are daily consulting with progressive manufacturers and meeting the need for high grade, uniform, finishing oven production at satisfactory volumes.
Continued repeat orders vouch for LANLY competence.
Complete information and literature supplied upon request.
Batch-Type Oven.
Lay-Down Porcelain Enamel Dryer.
Multiple-pass Finishing Oven.

two hour intervals. Thinner is added when necessary to maintain the correct viscosity. This maintenance of a uniform viscosity assures a consistently uniform prime coating on the entire surface of all dip coated parts.

Paint Heaters Aid in Control of Viscosity

Those parts that are to receive a spray coat of white synthetic enamel are not removed from the overhead conveyor; they continue on to the spray booth where they are coated.

Enamel is supplied to the spray booths from two 100-gallon tanks, by a paint circulating system. The tanks are located in a fireproof room. Material passes through two filters as it is circulated through the system. The viscosity of the enamel in the tanks is 38 to 40 seconds at 78° F., as measured in a No. 4 Ford cup. At the spray booth the enamel passes through two paint heaters set at 190° F.; this gives a material temperature of 145° F. at the spray gun. Viscosity of the heated enamel is 21 seconds.

Paint heaters are on top of spray booths in this compact spray painting setup. Enamel is supplied through a paint circulating system.

Better control of viscosity is obtained through the use of paint heaters, as in this way it is not subject to the vagaries of the weather or even by variations in room heat or humidity. The end result is a more uniform film thickness on the metal. Actual spraying time is speeded up because, with each stroke of the gun, more solids are being put on the metal surface than would be possible with cold enamel. Material is sprayed at 55-lbs. atomizing pressure, and 15-lbs. fluid pressure.

Oven is Tested for Heat Uniformity

Spray coated parts travel for 10 minutes to provide a suitable flash (air drying) period before these parts, along with the dip coated parts traveling on the same conveyor, enter the high-level indirect-gas-fired convection oven where the finish is baked at 325° F. for 24 minutes.

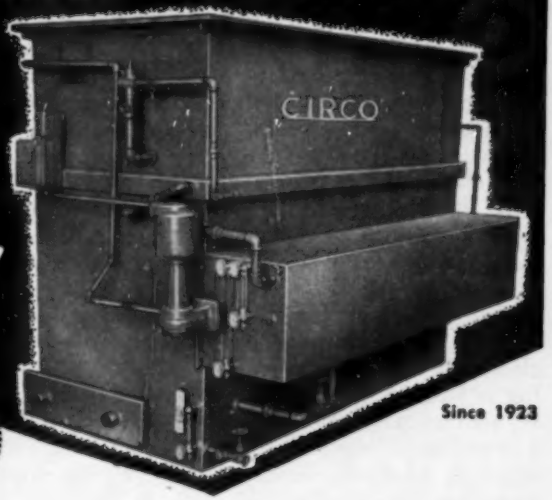
The speed of the conveyor does not vary from day to day, therefore the baking time can be definitely established and maintained. A recording thermometer on the outside of the oven registers the oven temperature during each 24-hour period. Once a week a recording

Clean METAL PARTS

FASTER!
BETTER!
CHEAPER!

with a

CIRCO



Since 1923

VAPOR DEGREASER...

Available in all types, vapor, vapor-immersion, vapor-spray. Made in all sizes from small batch-type Degreasers to large custom-built monorail or cross-rod conveyor models.

CIRCO Vapor Degreasers are suitable for operation with either Perchlorethylene or Trichlorethylene Degreasing Solvents. CIRCO Degreasers distill and reclaim their solvent automatically. Dual vapor level control.

Interiors zinc metallized for protection against corrosion or available in stainless steel construction. New CIRCLAD Coating provides double corrosion protection.

●

Write for new CIRCO Degreaser Bulletin

- *Operates with either Trichlorethylene or Perchlorethylene*
- *Reclaim own solvent automatically*
- *Constant solvent level control*
- *Positive dual vapor level controls*
- *Automatic (shut off) safety controls*
- *Eye level thermometers, gauge glasses*
- *Clean solvent storage tanks*
- *Leak-proof pumps*
- *Economical—low operating cost*
- *Low solvent consumption*
- *Easy to clean and service*
- *Sturdy, long-lasting construction*

CIRCO DEGREASING SOLVENTS

CIRCO-SOLV-(Trichlorethylene)
PER-SOLV-(Perchlorethylene)

Both solvents—specifically manufactured for metal cleaning. Stabilized — non-corrosive. Best for all degreasers.

Manufactured by

TOPPER EQUIPMENT COMPANY

120 CENTRAL AVENUE CLARK TOWNSHIP (RAHWAY), NEW JERSEY

Offices in principal cities 2045

PER-SOLV (Perchlorethylene) • CIRCO-SOLV (Trichlorethylene)

CIRCO VAPOR DEGREASERS • METAL PARTS WASHERS • DRYERS • SOLVENT RECOVERY STILLS

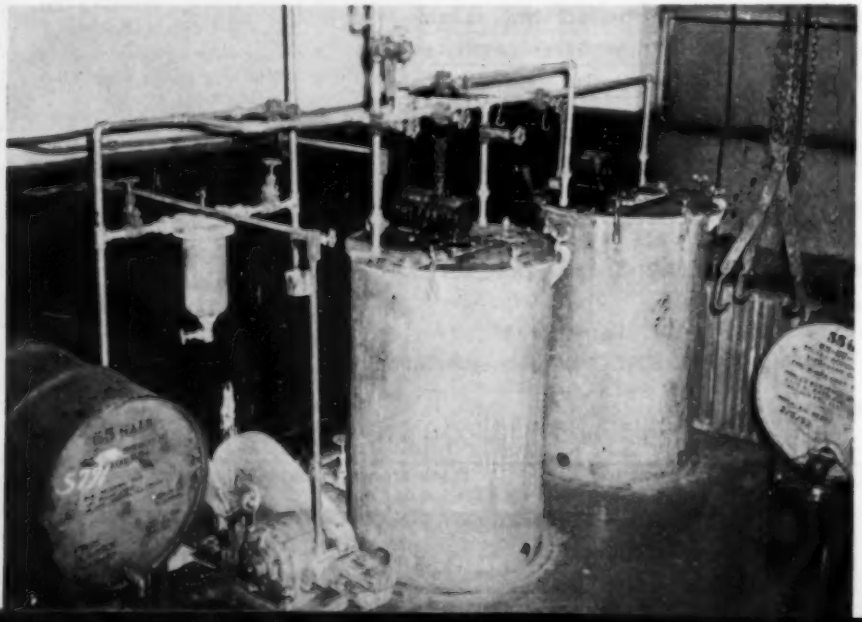
thermometer is suspended from the conveyor and sent through the oven to check actual oven temperature. In this way we find out if any hot or cold spots appear in the oven; and we check the uniformity of heat in the oven during the 24-minute baking period. You may think we are over cautious, but it pays off.

Our supplier formulates the enamel to produce a good hard gleaming white surface. The coating is baked for 24 minutes at 325° F., neither more nor less, so, with a constant baking period, it is up to us to do what we can to avoid any variation in baking heat.

Upon leaving the oven, washer parts travel 28 minutes to cool. Those parts that require a 2-coat finish are removed from the conveyor and lightly sanded with No. 6/0 sandpaper, then wiped off with naphtha and tack ragged before they are transferred to another overhead conveyor to return to the spray booth and go through the oven again. The top coat is baked for the same period and at the same heat as the first coat. Those parts that require only one coat continue on the conveyor to assembly lines.

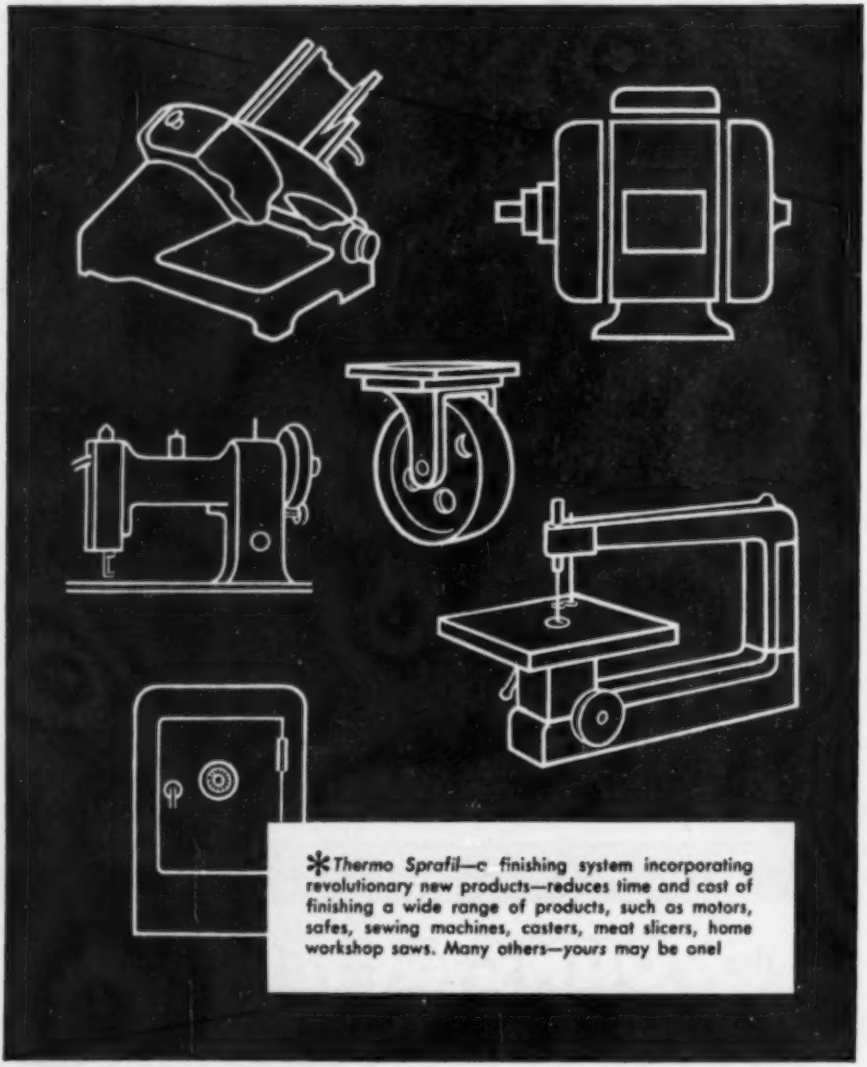
As an additional precaution, in striving for quality, the automatic washer lids, which take the brunt of the steam from hot water during service, are dip-primed in a special gray enamel formulated for high heat resistance. All of these lids are run through on one of the night shifts, because this enamel must be baked for 24 minutes at 375° F.; they cannot be interspersed with other work which bakes out at 325° F. The lids are delivered to assembly lines by lift truck from parts storage. [END]

From fireproof paint supply room, enamel is pumped to spray booths through piping.



DUST AND FUME CONTROL
TODAY'S BEST BUY!
There are few Dust and Fume conditions which cannot be successfully analyzed and properly ventilated by Young & Bertke Engineers and Systems.
Dust threatens everyone — its effect is devastating. The best of machinery cannot operate. Dust causes breakdowns, wastes time, operating hazards and spoilage on the assembly line.
Do you want your plant advertised by your neighbors as having fumes coming from it?
Remove Dust and Fumes at their source with a Young & Bertke system. Efficient control for all types of Industry.
DESIGNED • FABRICATED • INSTALLED
The YOUNG & BERTKE Co.
DUST and FUME CONTROL • OVENS • SPRAY BOOTHS
2250 BUCK ST. CINCINNATI (14), OHIO

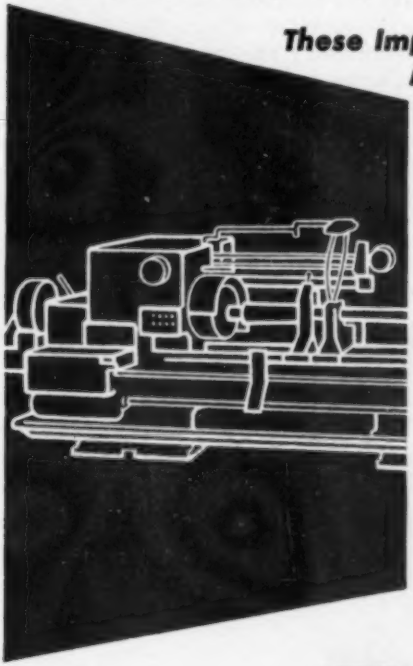
Manufacturer saves Lowe Brothers THERMO SPRAFIL



✻*Thermo Sprafil*—a finishing system incorporating revolutionary new products—reduces time and cost of finishing a wide range of products, such as motors, safes, sewing machines, casters, meat slicers, home workshop saws. Many others—*yours* may be one!

$5,000 Per Week With Finishing System!

Upon the recommendation of a Lowe Brothers "Finishing Specialist," a famous manufacturer of turret lathes* put *Thermo Sprafil* to the test. He found that the *Thermo Sprafil* finishing system *minimized* the need for sanding; made it possible to *eliminate* one coat of finish formerly required! He also found that spray coating provided a *much faster finishing method* than the tedious knife-blade application previously employed; that double handling and back-tracking of work were eliminated! Besides getting greater production and better finishing results, this manufacturer reports that savings since installing the *Thermo Sprafil* finishing system amount to about $5,000 per week!



These Important Thermo Sprafil Features Make Such Savings Possible!

- Flows out smoothly.
- Dries quickly—ready to sand or re-coat in a few hours.
- Dries smooth, free from "pin-holing."
- Eliminates sanding of wheels, levers and similar small castings—*minimizes* time where sanding is essential. Sands easily!

You may benefit by the experiences of this manufacturer and the many others whose factual reports prove beyond question that Lowe Brothers new *Thermo Sprafil* system produces *better* finishing results at much *lower cost*. Permit a Lowe Brothers "Finishing Specialist" to present the full story without obligation. Write today!

THE LOWE BROTHERS COMPANY • Dayton 2, Ohio
Industrial Division

This advertisement is based on facts from Lowe Brothers industrial case history files.

LEADERSHIP THROUGH CONSISTENT SERVICE

Lowe Brothers
FINISHES FOR INDUSTRY

Preparing and Painting METAL SPECIALTIES

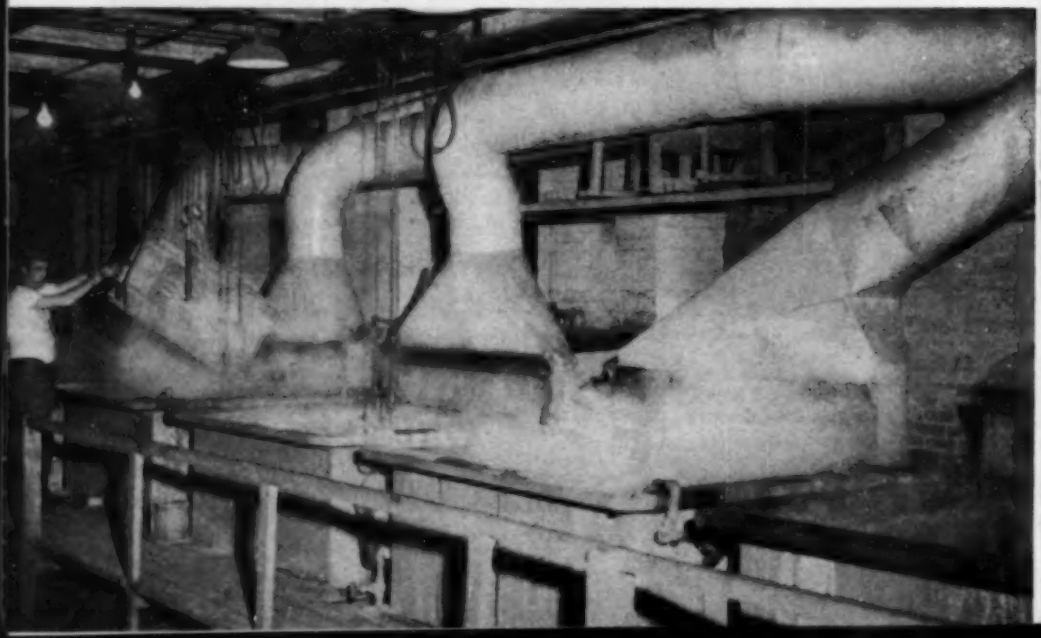
BY WALTER RUDOLPH

STEEL PARTITIONS, INC., Jamestown, N.Y., has earned national prestige for the products that are its namesake—steel partitions, or movable metal walls that are currently in such popular demand by both industrial and commercial concerns. But more recently this firm turned its metal fabricating and finishing skill to metal specialties, in the "you name it, we'll make it" tradition.

A firm must have versatility in the metal speciality field. Facilities, operations and engineering services must be attuned to individual custom jobs of small quantities, and to the large quantities demanded.

With this knowledge in mind, Steel Partitions went into one of its two plants in the postwar period and adapted it to the speciality business. The plant was several stories in height, had more than 100,000-sq. ft. of production area, and had two finishing systems. One of them — the one designed for smaller and more repetitive items —was dismantled.

Bonderizing and cleaning tanks are served by overhead monorail and power hoist equipment.



Spraying hot synthetic enamel. The paint heater appears at lower right.

In addition to making its own line of steel cabinets, etc., this factory is now tooled up to manufacture and paint metal products for other companies.

Spray Booths; Ovens; Conveyor Line

The batch type spray booths and several ovens were retained for awkward and small quantity lots. On the other hand, some 400-ft. of conveyor line was adapted to a continuous painting-baking line, and some 900-ft. of "freight line conveyor" — transportation between three floors, into shipping and from receiving to stock—was retained.

This freight line conveyor has alternate hooks and package platforms. Pieces like shower cabinet panels can be hung on hooks to move them down to the first floor shipping dock; and incoming packages (arriving on the same dock) can be placed on the conveyor's package platforms for the trip up to third floor storage.

In the metal specialty business, a firm may, as does Steel Partitions, do some jobbing of items from fabricating through metal finishing, and then ship the items to parent factories where assemblies are completed and painted. Apex washer and drier parts, for instance, are completely fabricated and all surfaces are made smooth ready for painting, and then shipped from Steel Partitions to the Cleveland Apex plant.

Facilities for Sanding a Variety of Surfaces

In metal finishing this firm uses large stroke or belt sanding machines, with sanding belts of various grits, depending upon the item. Portable sanding machines are also used on some heavy smoothing jobs, like grinding down welds or arc fillets.

The company also uses buffing jacks for many finishing jobs. This type of floor installation, with its back stand, is adaptable to quick switching from buffing to sanding. Time and material savings are pos-

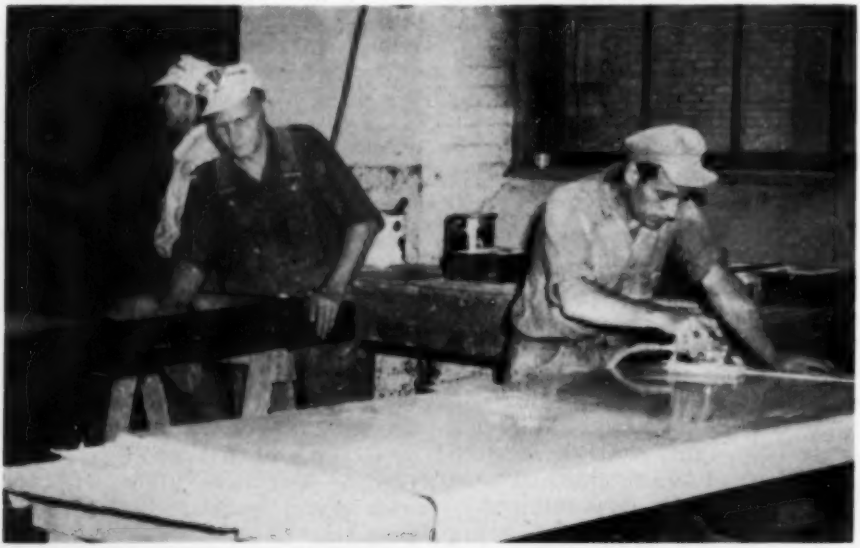
sible, it is reported. Buffing is usually done on speciality items that have contours and places which are difficult to reach.

Vapor Degreasing; Rustproofing

Both vapor degreasing and Bonderizing are available in this plant. Which one is used depends upon the speciality item and the customer's specifications. Degreased shower panels, for instance, are hung on a between-floor conveyor for trip to spray booths upstairs; their surfaces are tack ragged just before being painted.

Many of the items are given an alkaline degreasing in a tank next to a row of Bonderizing and cleaning tanks. The latter are plant-designed, five in number, each about 5x6x6-ft. in size. They are served by a monorail and power hoist arrangement that extends along the entire length of the installation.

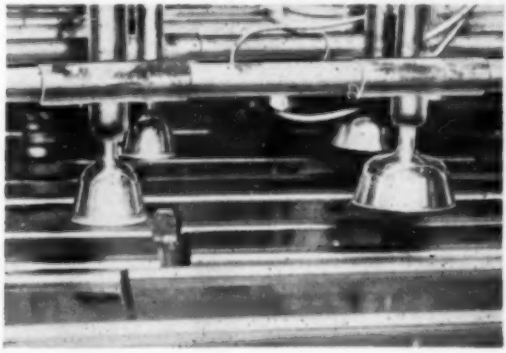
The first of the steam-heated tanks holds a cleaning solution (at about 190° F.) wherein the immersion time for most of the work is about three minutes. A tank of clear boiling water next receives the basket of specialties for a rinse dip. Bonderizing takes place in the third tank, for about three minutes, followed by a hot rinse dip. This hot rinse could be a cold rinse but here hot water is used to take advantage of heated metal in the subsequent flash drying. The last of the tanks contains a hot chromic acid rinse solution. Awkwardly shaped pieces are blown with a jet of compressed air to aid the flash drying. On some jobs the metal surfaces are cleaned with naphtha and clean wiping rags. [*To page 52*]



Men working at the filling, sanding and wiping station near a batch type oven at left.

PRODUCTION AND PAINT MILEAGE STEPPED UP 60% WITH THE

Ransburg NO. 2 PROCESS



Butler Manufacturing Company—in its Galesburg, Ill. plant—uses the Ransburg No. 2 Electrostatic Process for spray painting big sheets of roofing and siding for steel utility buildings. Average paint production runs 15,000 square feet per hour.

On this installation, production was increased 60% and paint mileage was stepped up 60% over the former hand spray operation. Coverage uniformity was greatly improved and this unit, with one operator, handles a production volume equivalent to work done by 7 hand spray men.

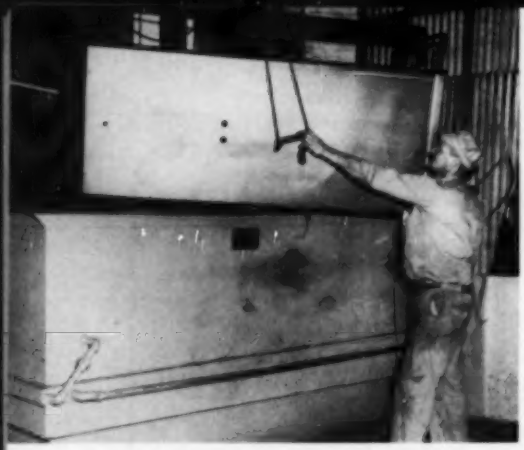
This is another of the many applications where the Ransburg No. 2 Process is effecting new efficiencies—saving time, labor and materials—with consistently higher quality results.

● *If your production volume justifies conveyorized painting, you should investigate the savings to be effected through use of the Ransburg No. 2 Process. Write for our brochure, describing the No. 2 Process.*

RANSBURG ELECTRO-COATING CORP.

Indianapolis 7, Indiana

RANSBURG



An electric hoist is used to lower racks of large panels into this degreaser—and to lift them out again.

Filling, Baking and Sanding to Make Surfaces Smooth

For many specialty pieces, the most exacting part of painting operations follows. Such specialties as bond boxes, various types of electrical or electronic cabinets, and other special enclosures must be smooth and have an attractive finished appearance. Metal filling, where it is needed, and fine sanding prepare the surfaces for these requirements.

Filling is now done by skilled craftsmen who use a special filler which they apply with ordinary putty knives. The filled pieces are baked from three to seven hours. Baking begins with slowly rising temperature to gradually dissipate any moisture and/or solvents from the filler. The maximum heat reached in this baking operation is about 250° F. Sanding of the filled surfaces follows, usually with a portable sanding machine.

A second filling with an air-dry liquid carrier, and a final sanding with No. 120 to 220 grit abrasive paper, are followed by a "blowing-off" and tack-rag wiping before the priming. Spray booths, spotted about the paint shop, and batch ovens are available for workmen to follow through on those items that are to be prime coated and/or given another coat of paint or enamel.

Synthetic Enamel is Heated When Being Sprayed

Steel Partitions was one of the first companies to try hot spray painting. The company found it satisfactory in reducing painting

Inspection and checking at exit of oven.

Automatic Electric Spray-Bake Coating Machine

Pays For Itself In Regular Production Within 3 To 6 Months

Has Built-in Drying Chamber and Electric Strip-heated Oven

- Equipment includes conveyor, water-wash or dry-spray booth, drying compartments, electric strip-heated oven, controls, etc.
- Handles pieces from 1-in. diameter to over 12-in. in diameter.
- Pieces on work holders are automatically sprayed . . . travel through a drying chamber for solvent evaporation, and then into electric strip-heated bake oven.
- Excellent for shell noses, cartridges, weapon parts, clocks, pens, pencils, hardware, etc.
- Produces a high quality finish and exceptional savings on sizes and shapes that are difficult to handle.

Let us make a test run of your own work samples—for time study and cost analysis—no obligation.

THE CAPITOL MACHINE CO.

36 Balmforth Avenue

DANBURY, CONN. Tele. Danbury 3-2758

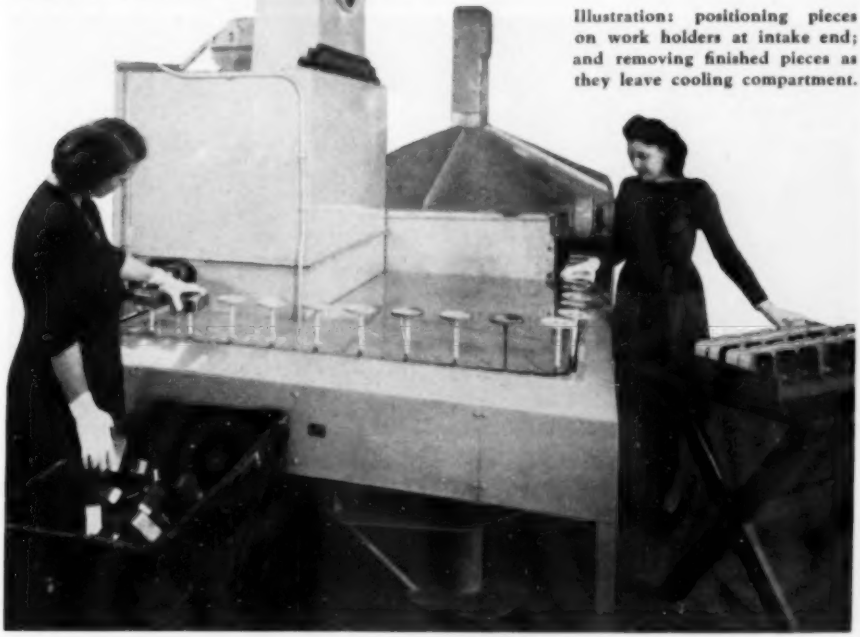


Illustration: positioning pieces on work holders at intake end; and removing finished pieces as they leave cooling compartment.

time and material costs. Formerly, on such specialty items as shower cabinets, a flash coat was followed up closely by a second and final coat of paint. Now hot paint, coming from heaters at 190° F. and being about 160° F. at the spray gun, can be applied hour after hour, with uniform quality finishing assured. Three men in two water-wash spray booths now do the work that formerly required five sprayers. Two men are painting and one is available for relief, so the work can proceed continuously.

It is estimated that hot spray painting enables two men to cover 80% as much surface as was formerly covered by four men. Spray painting of synthetic enamel is followed by oven baking at 300° F. The overhead chain conveyor that carries work through the spray booths also travels through a 70-ft. long convection oven.

Shower cabinet components are carefully wrapped in sheets of wax paper, and packaged with cardboard filler and cartons for shipment.

Waldie Leaves New Wrinkle

Wm. A. Waldie, for 14 years Technical Director of New Wrinkle at Dayton, Ohio, has resigned this connection and plans to engage in general consulting practice on paint and varnish lines.

Mr. Waldie, an engineer and chemist, has been associated with a number of nationally known manufacturers of finishing materials. He is the inventor of several coating compositions. His professional affiliations include the American Institute of Chemists; Engineers Club of Dayton; Harvard Ass'n. of Chemists; National Ass'n. of Professional Engineers; and the Dayton Chapter of the Ohio Society of Professional Engineers. Mr. Waldie lives at 67 Corona Ave., Dayton 9, Ohio.

Operating heads of the Sherwin-Williams Co. plants gathered in Cleveland recently for discussion of technical and production problems.

Shown here are the managers of manufacturing and general superintendents of ten major factories. Standing are: G. F. Daley, Montreal; M. W. Hurdelbrink, Cleveland; J. R. Ferree, Los Angeles; W. R. Currens, Dallas; W. A. Miller, Chicago; and J. A. Hutchinson, Detroit. Seated are: C. S. Hollinger, Gibbsboro; W. O. Michaels, Oakland; Victor Mills, general manager of paint, varnish and lacquer manufacturing, Cleveland; Lloyd Kautz (pinch-hitting for Carl Sturmer), Newark; and E. W. Fasig, Dayton.

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DIFFICULTIES may be experienced in masking round or shaped openings having diameters of only ¾ to 1-in., and larger for protection while spray painting. These difficulties arise from the pressure sensitive masking tape sinking far into the opening, due to handling of the piece. As the center of the mask is depressed the edges become loose and allow overspray to contact areas to be protected.

This trouble may be avoided by using die cut-to-shape cardboard about 1/16-in. thick, with pressure sensitive tape on one face. The cardboard is sufficiently rigid to withstand ordinary handling, thus preventing the edges of the mask from loosening.

These masks may be used several times before the pressure sensitive face looses its holding power. When this loss does occur, the effectiveness of the mask may be restored by removing the adhesive tape and replacing it with die cut, double surface pressure sensitive tape made to withstand baking temperature.

This same type of mask is extremely useful for protecting precision ground or machined areas surrounding threaded openings against mars and scratches through all production up to final assembly.—*G. K.*

Infra-Red Heat Panels

An illustrated bulletin reveals information about Miskella Infra-Red Uni-Glow Heat Panels now offered by The Miskella Infra-red Co., E. 73rd and Grand Ave., Cleveland 4, Ohio.

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The Outstanding
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COATING THE SURFACES OF PRODUCTS BY dipping

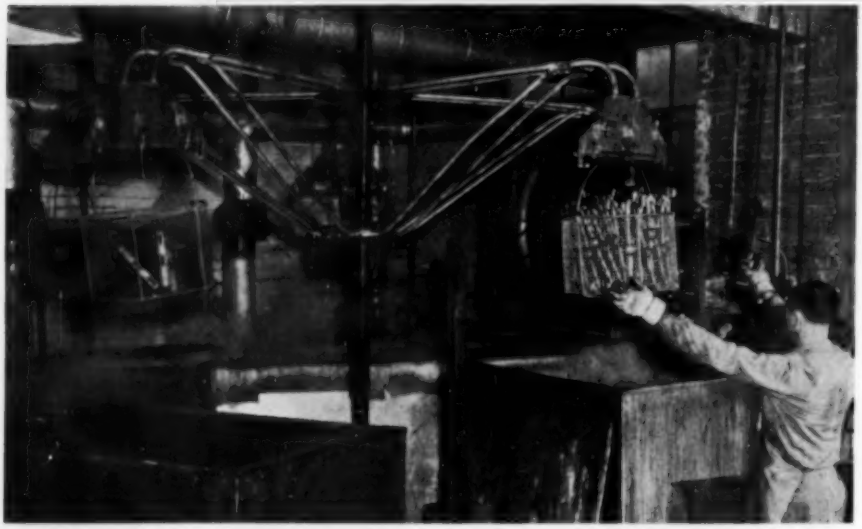
DIP COATING, in its simplest form, consists of lowering an article to be coated into a container of paint (or other coating material) until it is completely submerged; then lifting it out and hanging it over the container or over a drainboard while the surplus paint flows off.

For the better class of product painting some objectionable features to this primitive type of coating might include the following:

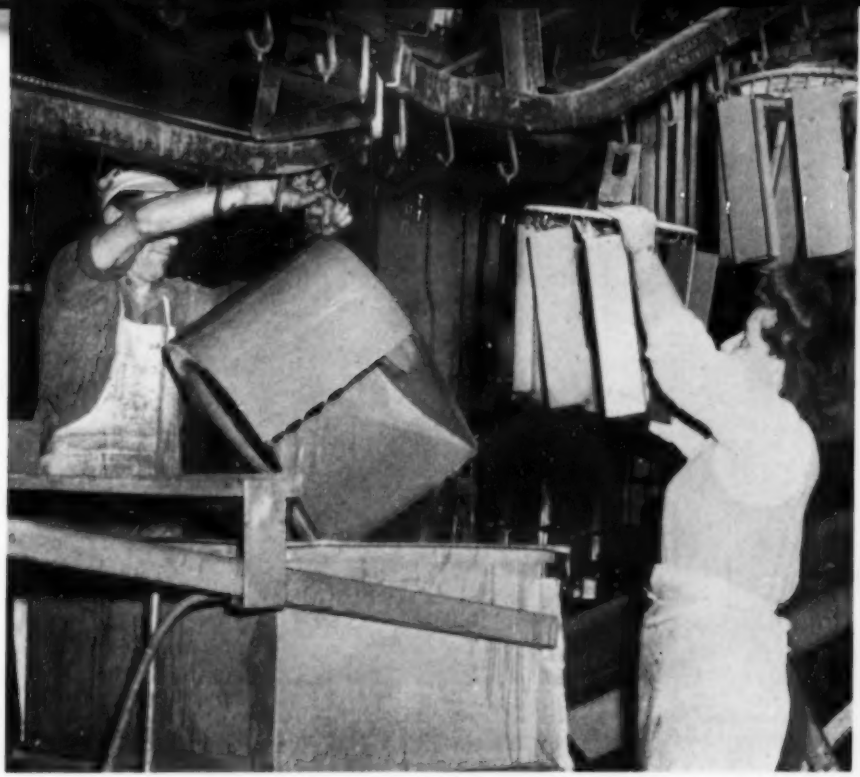
1) On some shapes of articles all of the surplus paint does not drain off completely; it becomes trapped in "pockets", valleys, depressions, crevices, partly closed holes, etc.

2) Along the low edges and corners, some surplus paint forms fat edges and clinging drops which need to be removed by mechanical or electrical means.

3) Unless the material is especially formulated for dip coating, the resulting film of paint may not



A revolving umbrella frame type of dipping machine; it is rotated by hand but moved down and up by power. Tanks, spaced in a circle underneath the arms may contain cleaning solutions, rinses, dry-off heat and paint coating material. The arms may be loaded with baskets of small parts, as shown here, or larger articles suspended singly or in multiple.



Dip coating large single items (left) and racks of small parts (right) and hanging them to an overhead chain or cable conveyor which may or may not carry them through baking oven.

be uniform in thickness; it may be too thin at and near the top or on surfaces that hang vertically, and too thick at and near the bottom of the piece that has been dipped.

4) As dipping continues the paint in the tank becomes "thicker" or more viscous because of the rapid solvent loss from an open tank of material.

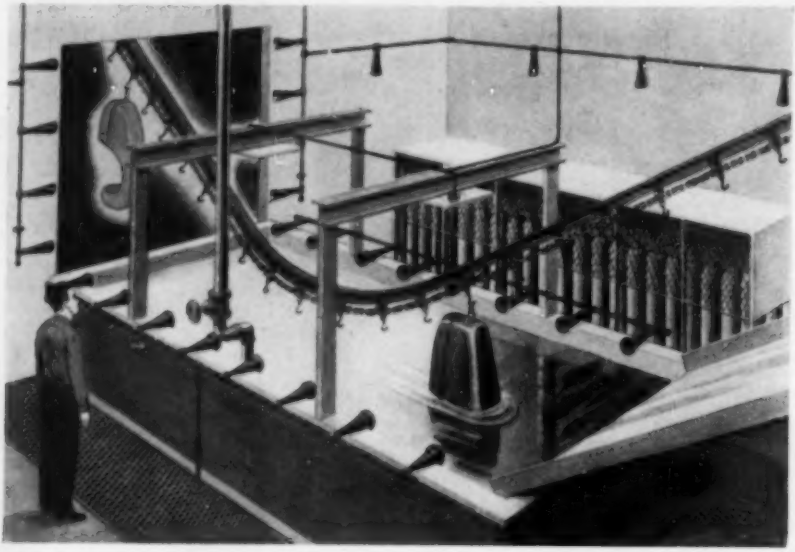
5) The escape of solvents from the open tank of material sometimes contaminates the air near the tank to such an extent that it proves to be objectionable, uncomfortable and perhaps even sickening to some of those who are obliged to work near it.

6) An open tank of paint or lacquer material, being inflammable, presents a fire hazard in the plant.

7) This method of coating (dipping) is often associated with a low-priced or cheap one-coat job—or preliminary coating like staining (as in wood finishing) or prime coating.

Modern Dipping Facilities Remove Objectionable Features

Fortunately, the simple primitive type of dip coating mentioned in the first paragraph of this article has long been out of date as a production operation. So many different improvements have been de-



A conveyor dipping setup wherein the open tank of material is surrounded by the nozzles of a fire extinguishing system which automatically releases a smothering gas in case of fire.

veloped in connection with dip coating methods, each with its own specialized functions, that practically all of the objectionable features associated with old fashioned dip coating have been removed through the use of better materials, methods and equipment developed for this type of work.

Paint materials and solvents have been especially formulated for use in dip tanks, with the result that dip coatings are more uniform in thickness; fat edges and clinging tear drops of paint are minimized; solvents are used which are less objectionable to workers; and the escaping of fumes from an open tank are removed promptly and effectively by means of hoods, duct work and exhaust fans.

Dip tanks are improved in design and safety features. They are covered with automatic drop lids except when in actual operation, and they are further protected by automatic fire protection devices.

The latter include both manual and automatic controls for dumping the contents of a dip tank rapidly into an underground tank; and the automatic release of fire extinguishing gas which promptly smothers any fire that may develop.

Conveyors or power hoists or other mechanical devices are employed to perform the mechanical phases of dipping.

Uniform Thickness Coatings; Removal of Tear Drops

Dipping racks have been designed to hold several small items for a single dip, and some of these racks are designed to slowly rotate the coated items after dipping—this to

Important Memo from...

The Monroe Sander Corporation

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TO: MANUFACTURERS OF METAL PRODUCTS

Re: SANCO'S NEW HAMMER FINISH

Here's some vital news about our newly developed Sanco miracle Hammer Finish. It insures:

1. Complete uniformity of pattern, even if the finish is applied by an amateur sprayer. No longer will you be plagued by uneven areas of design.
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Furthermore, the finish can be applied the same as any other enamel. No special high viscosity or low spraying pressure is necessary.

Try this miracle Hammer Finish, which is available in any color you desire. It's "dream spraying" come true.

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Whether your problem is to develop a coating to add life and durability to your product . . . one to perk-up sales appeal . . . a system to speed production or an exacting formula to meet defense work specifications . . . you'll find the quick, the easy, the efficient way is to call on Egyptian Finishing Know-How.

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prevent fat edges from developing and to produce a more uniform thickness coating with a uniform luster; in other words, a higher quality finish.

The fat edges and clinging tear drops can be automatically removed from dip coated metal products by electrostatic detearing equipment, as the dip coated articles move along by power conveyor. They can also be removed by manually brushing them off—or they may be ignored. After all, fat edges and clinging tear drops are less in evidence and less troublesome when a concern is using paint materials that have been formulated for dip coating.

So, if or when dip coating is contemplated for some special job or as a regular production operation, the method, materials, equipment and accessories can be chosen in accordance with well established engineering principles and practical production experience.

In a number of factories where the final finish coats are put on with spray guns, one or more preliminary coats are applied with dipping facilities. For example, in the finishing of certain wood products, the stain and sealer or undercoat may be applied by dipping; and in metal finishing, the prime coat may be a dip coat job, followed later by spraying of the top coat of paint or enamel.

What to Consider Before Selecting Dipping Equipment

Factors to review when considering the possibility of employing any dip-coating process include the shape, size and possible uniformity of products to be coated; also the number likely to be coated during a specific period of time, the material from which the products are made, and other factors more or less related to present and future facilities in the factory or shop where the work is to be performed.

Naturally the parts or items to be dip coated must have surfaces that are clean and smooth (if smoothness is desired in the finished product) and capable of holding a thin film of paint or other coating material. If part or all of the cleaned surfaces will not hold a film of paint, and if dip coating is

(Continued on page 67)

Workman unhooks a metal case from conveyor line, lowers it by power hoist into dip tank, then lifts it out and hangs it onto the traveling conveyor.

SALES. The colorful, sparkling DULUX finish on this tractor helps promote a sale in a dealer's showroom.

PROTECTION DULUX Tractor Enamel has the toughness to take hard knocks on the job . . . keeps its good looks despite years of outdoor exposure.

PRE-TEST. This guillotine-like device is one of many that help Du Pont develop finishes with high impact-resistance.

OUTPUT. The performance of DULUX helps a tractor manufacturer keep finishing time at a minimum while producing a finish of maximum durability.

DULUX does

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all-round job for tractors

DULUX Tractor Enamel is one of the many Du Pont finishes that have helped manufacturers turn out better products—faster—more economically. In the last twenty-five years, Du Pont chemists have developed more than 12,000 special-purpose finishes like this to serve a wide variety of industries.

Looking for a way to cut *your* manufacturing or maintenance costs? Looking for a finish that will make your product look better, sell better, last longer? You can get expert help on *any* finishing problem by contacting the Du Pont Finishes sales technician in your area . . . or by writing E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington, Del.

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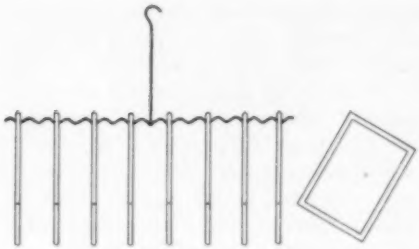


Rack for holding dipped picture frames.

practically a "must", then those surfaces will have to be treated (perhaps lightly etched or roughened) so they will hold paint.

The products or parts to be dip coated must be of such shape and suspended in such a position that the surplus paint will drain off—or if it can not drain away completely when the article hangs normally, some arrangement may have to be developed to tilt or up-end each item after it has been dipped, in order to release entrapped paint.

One type of dipping, not far removed from the elementary setup mentioned at the beginning of this article, is the manual dipping of single items suspended by a hook—or several small items suspended by hooks or other devices from a rack. The dipped items are hung to a rack or conveyor above the drainboard. Drippings of excess paint drop to a sloping drainboard and some of the material flows back into the dip tank. The conveyor (power driven or manually operated) may hold the dipped items long enough for the coating to air dry, or it may carry them through a drying room or oven. In some factories the overhead conveyor that carries dip-coated items is really a big wheel, resembling a merry-go-round; in others the overhead chain conveyor travels along in a straight or curved line.

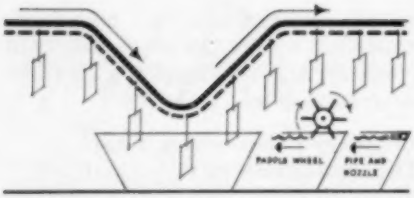
Overhead Conveyors That Dip Automatically

Now to take a step forward from the kind of setup just described, we find an overhead chain or cable conveyor that has a "dip" in its track so that it automatically lowers and raises items or racks suspended at regular spacing along its length. All that is done manually is to hang articles to the conveyor before dipping and remove them after they have been dipped and are dry.

Going along still further with this idea is an arrangement that includes two parallel chains connected by crossbars. Several hooks that suspend the items to be dipped can be hung on each traveling bar.

Tanks for these conveyor dipping setups are usually made with sloping sides (or ends) to roughly conform to the slope of the conveyor as it descends from and then as-

The monorail chain conveyor dips down into tank and comes up again so that the parts hanging to it will be completely submerged.



Here are illustrated, at lower right, two ways to deal with surface bubbles which are inclined to become attached to coated parts leaving tank by conveyor. Drive them back toward the far end of tank, either with a small power driven paddle wheel or with the nozzles of a paint recirculating system.

cends to its regular overhead level. The deepest part of the tank is its middle which is directly below the lowest point in the "dip" of the conveyor track. As a result, less material is needed to fill and maintain a tank of this shape. In some factories, tanks for conveyor dipping are mounted on wheels or casters, making them portable so they can be moved away to be emptied or filled or stored when not in use, or exchanged for a tank containing material of a different color.

Bubble Trouble and How to Solve It Effectively

In some cases the continual descent of parts into a tank of paint material, followed by some jostling as the parts are moved laterally through it, causes air bubbles to form on the surface of material in the tank. A few of these air bubbles may cling to the coated surfaces leaving the tank and later burst, resulting in small, unsightly scars.

The usual remedy for this trouble is to move the bubbles toward the "entering" end of the tank, that is toward the end where the products are coming into the tank by conveyor. One way to move these air bubbles back is to install a small paddle wheel near the exit end of the tank and rotate it slowly above the surface of the paint so it will impart a gentle surface flow of liquid toward the "entering" end of the tank; in other words, in a direction just opposite to the conveyor travel.

Recirculate Contents of Dipping Tanks

Still another and perhaps better plan is to recirculate the contents of the tank with a pump. A suggested arrangement is one in which the pump draws paint from near the bottom of the tank and discharges it in small jets from several small nozzles fitted to a pierced horizontal pipe positioned just below the surface of the paint and near the end of the tank where the conveyor is leaving. Under-surface jets of paint, pointing toward the entering end of the tank, tend to produce a gentle surface movement of the liquid, flowing it and any surface bubbles toward the entering end of the tank where the bubbles will do no harm.

Even if there is no bubble problem, the recirculating of paint in dip tanks, or some form of mild stirring by mechanical means (for example, rotating one or more propellers at or near the bottom of the tank) is desirable to keep the entire contents uniform in viscosity and pigment content.

In addition to this stirring or agitating the contents of a dip tank, tests for viscosity should be

HOT Lacquer NEWS

PUBLISHED PERIODICALLY BY HERCULES POWDER COMPANY IN THE INTERESTS OF BETTER FINISHES AND FINISHING

Wurlitzer Piano Finishing Rate Up 33% with Hot-Spray Lacquer

Quality Finish Also Cuts Rubbing and Handling Time

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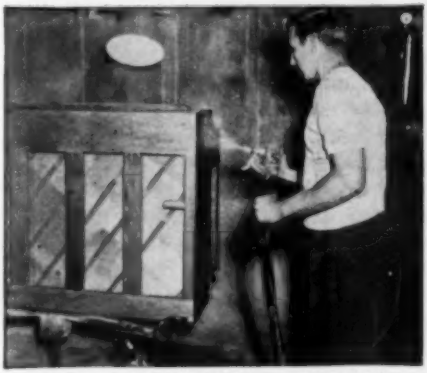
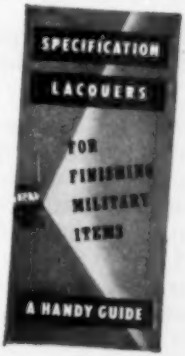


After case parts of the piano are assembled, final coats of hot gloss lacquer are applied.

Completed upright with hot lacquer finish.

Specification Lacquers for Finishing Military Items

Learn more about lacquer for defense finishing. Send for this handy guide to specification lacquers that helps you decide which finish you will need in performing government contracts. Specification numbers are listed, as well as an index to uses.



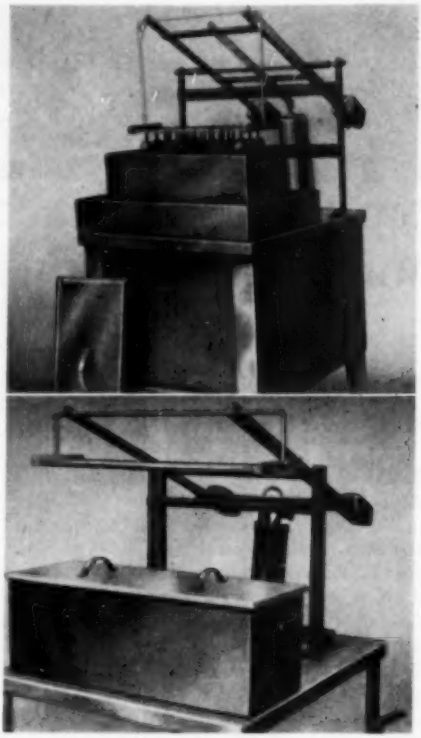
CL52-6

made at intervals of every hour or half hour. Evaporation of solvents from any large exposed surface of paint material must be taken into consideration. With the information revealed by these periodic tests, one can judge when to add thinner and how much to add to compensate for what is lost by evaporation.

While large quantities of parts and products are dip coated by power conveyor, as described in the foregoing paragraphs, this method of immersion and withdrawal, including dragging the parts almost horizontally through a tank of material, is generally utilized as a convenient means of getting "paint coverage" on a fast economical production basis, and where the surface appearance of the coating is not too important. It does not represent what might be termed "precision dip coating". By "precision dipping" we mean the kind of dip coating that produces a smooth, lustrous, decorative top coat of uniform thickness and luster on finished products made of wood, metal, plastic, fiber, etc.

Precision Dipping for Smooth Finishing Job

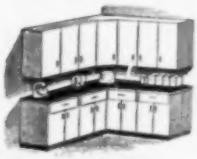
One type of precision dipping calls for a slow vertical withdrawal of single or multiple items from a tank or container of finishing material—or the withdrawal of a movable container of material (lowering it) from a loaded rack of suspended articles. The rate of perpendicular withdrawal is steady and uniformly slow, corresponding to the rate of flow-down of finishing material as the surplus peels away from the dip coated surface.



Two views of a small machine for vertical dipping. Movement of the rack above the tank is controlled by a hydraulic or air cylinder. Adjustments can be made to give a slow lift of dipped items from the tank.

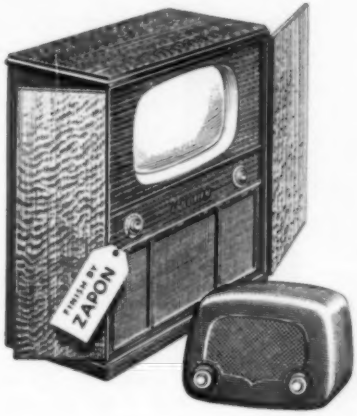
Several firms have developed regular machines that are designed for precision dipping. In some of these machines the perpendicular lowering and elevating mechanism is moved by cables, levers or wheels connected to an electric motor; in others, it is operated hydraulically or perhaps by compressed air. Many thousands of turned wooden handles for tools are coated with clear and colored finishes by this method.

(Continued on page 72)



Cabinets—TV and otherwise

Attractive, durable finish is an asset for all kinds of cabinets—kitchen . . . TV . . . or radio. For that matter, good finishes are good business for all makers, sellers and buyers.



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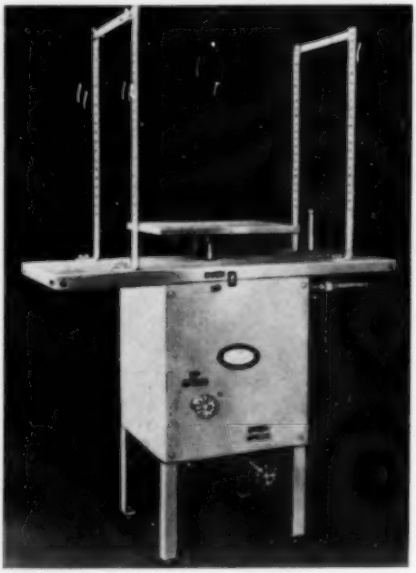
When the loaded racks of handles are removed from the machine they may be inverted (turned upside down) so that any trifling bit of surplus material that remains when the low end of the handle breaks contact with the top surface of coating material—this tiny bit of surplus material will flow back and level off perfectly around the top end of the inverted handle.

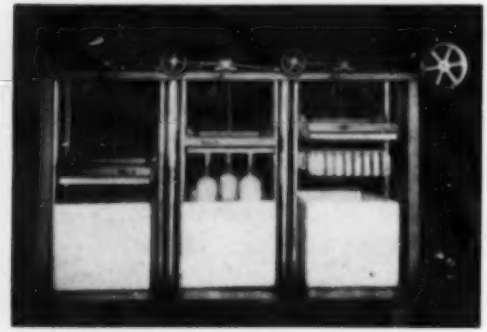
Holding Items in Racks For Multiple Dipping

Before leaving the subject of dip finishing short wooden handles in multiple, it may not be amiss to specify just how these wooden turnings are temporarily fastened to a dip rack. Usually, sharpened nail points or something similar (permanently anchored in the rack) are driven or pressed into the unfinished ends of the wooden handles. For multiple racking, a sort of egg-crate type of assembly rack is placed on a work bench or table and the bare wood handles are dropped into the individual spaces where they stand vertically with their unfinished ends pointing up. Then the dipping rack, with its properly spaced nail points pointing down, is lowered to rest over this rack of handles. A few taps with a mallet or one stroke of a power press, and the rows of equally spaced handles are temporarily affixed to the rack —with their lower ends all in perfect alignment so that each handle in the batch will enter the coating material at the same time and extend the same distance into the material at the end of the machine's down stroke. [*Continued on page 74*]



Here is a small vertical dipping machine wherein the parts to be coated are hung on a rack which spans and rests on cross arms above. The rack of parts remains stationary but a tank of paint, resting on the small platform lift, is moved up until the parts are submerged; then the tank is lowered slowly. The lift is mounted on the end of a piston rod operating in a cylinder. Photograph, courtesy of Maas & Waldstein Co.

A motor-driven 3-rack, 3-tank vertical dip machine for small work. Its base rests on leg supports to place it at right height. Photo, courtesy of Apex Manufacturing Corp.



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Silver Mink Finish by the

GILBERT SPRUANCE COMPANY

The above photograph —courtesy of Seiling Furniture Company.

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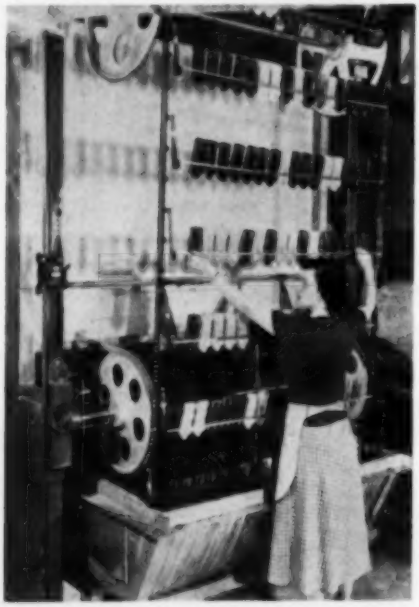
THE GILBERT SPRUANCE COMPANY

PHILADELPHIA 34, PA. • WINSTON-SALEM, N. C.

Various means have been developed to temporarily hold or suspend small parts made of materials other than wood. Hooks, wires, spring clips, strings, pegs and magnets are possibilities, depending upon the size and shape of articles, and what they are made of.

Coating Beads With Pearl Lacquer

A considerable variety of small articles are finished by precision dip coating. Among these are imitation pearl beads—glass beads and plastic beads which are given from three to six thin coats of pearl lacquer. The beads are dipped and the racks that hold them are slowly rotated so that the film of coating material will level out perfectly to a uniform thickness. Special machines and accessories have been developed for dip coating beads with pearl essence to produce a perfect finishing job that is highly decorative—and durable too.



This dipping machine has a dip tank below and a drying chamber above. Parts to be dipped are racked on cross bars which, in turn, are hung to lugs on the two parallel chains. Operator stands at right. Photograph, courtesy Applied Engineering Associates.

Of course, all vertical dipping equipment is not necessarily designed for or operated in such a way as to produce precision dipping. The rate of withdrawal can be speeded up and the racks of dipped articles may be quickly transferred to hang over drainboards as in ordinary chain conveyor dipping.

Dipping Heavy Work With Power Hoist

Heavy single items and heavy or bulky assemblies made of wood or metal are sometimes coated by dipping. Work of this kind is usually suspended from one or more hooks or a rack and then lowered into and withdrawn from the tank of material by a power hoist, power being supplied by electric motor or compressed air.

In some factories, where a considerable volume of heavy work is dip coated, the overhead power hoist is in line with or close to an overhead chain conveyor. Work is moved to and away from the hoist by power conveyor. An operator at floor level manipulates cables or levers or push buttons to align the heavy work above the dip tank, lower it into the liquid material, raise it and move it away. The dip coated articles may or may not pass through a drying chamber. [*To page 76*]

Cranking out toy soldiers so that each one will be exactly like the last is comparatively easy. Not so when it comes to the manufacture of finishes! One of the most difficult problems facing the finishing field is *uniformity,* the chief reason being that Mother Nature abhors it. No two snowflakes are alike . . . no two leaves the same! Similarly, the oils and raw materials used in the manufacture of finishes lack uniformity in their chemical and physical properties. Only constant production control can lick this problem. At Reliance we have been producing *uniform* finishes for our customers for better than 30 years.

If you have a finishing problem, give us a chance to prove this without obligation.
Address 4732 Crittenden Drive, Louisville, Ky.

Rely on Reliance

RELIANCE VARNISH CO., INC.

AFFILIATED FACTORIES IN

LOUISVILLE, KY. BOONY HILL, CONN.

CHICAGO, ILL. JOHNSONVILLE, N. Y.

Small Articles in Mesh Containers for Dipping

For dip coating thousands—yes millions—of very small items, say for example, items the size of golf tees and smaller items made of wood, metal, fiber, plastic, etc.—where they are too small to hang up or rack individually, there is the possibility of placing a batch of them into a wire mesh basket, bucket or tray and dipping the mesh container into a tank of paint or other coating material. The basket is withdrawn and allowed to hang a few minutes while the surplus paint flows off. Then the coated items are dumped into one or more shallow trays and allowed to dry—either in room air or in a heated oven.

Dip-Whirling Machine For Small Items

A great improvement over ordinary mesh basket dipping of small items in large quantities is what might be called a combination of dipping and whirling in a centrifugal machine. Items to be coated are placed in a basket which, in turn, is positioned in the cylindrical chamber of an upright machine. Either the basket of parts is lowered into a tank of coating material or the tank of paint is raised to submerge the loaded basket of parts; then the two are separated. Next the mesh basket of dip coated items is rapidly rotated—sometimes first in one direction and then in the opposite direction—inside the closed cylindrical chamber.

Surplus paint is whirled off the parts by centrifugal force, but it isn't wasted; it strikes the inside smooth walls of the cylindrical chamber and runs back into the tank of coating material. Then a door to the chamber is opened, the mesh basket of dip-whirled parts is removed and the contents are poured into shallow wire mesh trays which are placed conveniently for either air drying or oven drying.

Gyra-Flow Dipping; Work Holders on Belt

The Gyra-Flow system of dip coating, moving and drying small items consists of a machine wherein special holders for the items in production are attached to an endless narrow band which wraps around and travels over two or more rotating drums and wheels. One or more of the drums rotates directly over a dip tank. One long machine may take care of metal cleaning, rinsing, drying, prime coating, drying, finish enameling and drying, or a lesser number of operations. Items to be coated are temporarily attached to moving work holders.

The fact that the dip coated items are constantly changing position as the endless band that carries them wraps itself spirally around rotating drums, removes the possibility of a clinging tear drop or fat edge forming on any dipped item after its withdrawal from the coating material.

Gasket Dipping of Broom Handles and . . . .

Gasket dipping, as the name implies, consists of dipping an article (usually a wood turning) shaped similar to a pencil or broom handle, and withdrawing it through a rub-

ber gasket or squeegee which scrapes off all but a very thin film of the coating material. The dip tank for single dipping is tubular in shape, about three or four times the diameter of the article to be dipped and slightly longer than the article. At its upper end the tank is enlarged to make it easier to fill and to provide a reserve supply of paint or coating material.

The gasket, centered at the top of the tank and clamped firmly in position between metal washers, is soft flexible rubber—often made of an automobile inner tube—and has a clean cut hole the same shape as the cross section of the article to be coated, but smaller so its edges will rub tightly against the surfaces of whatever is being dipped.

In a small broom handle factory where gasket dip coating is used, they have, as a gasket, a strip of inner tube about 4-in. wide by 30-in. long. They punch clean round holes through this sheet of rubber on about 4-in. centers. Of course, in single dipping, only one hole is used at a time; when this one hole becomes worn or coated with paint, the operator loosens the wing nuts that hold it in place, moves a new hole into position, clamps down the rubber gasket and proceeds.

How much smaller the rubber gasket hole should be in comparison to the article being dipped, and how much larger the metal clamping washers should be—these and other details will have to be determined by experimenting. At the end of each dipping job or at the end of a day's work, the rubber gasket is removed and washed clean with thinner.

Of course, in gasket dipping, a short length at one end of each handle, or whatever is being dipped, will have to be grasped by the operator's hand or by a mechanical arm that dips and withdraws the handle, therefore this small portion of each handle will not be coated. With broom handles, this is not objectionable because the small uncoated portion of each broom handle is covered by broom straw and doesn't show in the finished product.

In one small broom handle factory, it is reported that one man, working an 8-hour day, can gasket dip 3000 broom handles, 1-in. in diameter, on the first coat, or 2000 of the same handles on the second coat. Presumably the second coat is given a slower rate of withdrawal. On children's size broom handles $\frac{5}{8}$-in. in diameter, the operator will dip 4000 handles per day.

Where it can be employed, a mechanical device for dipping and withdrawing broom handles and similar products, through a gasket dip, is more satisfactory than hand labor because the rate of operation is steady and continuous and not so tiresome to the operator.

Pittsburgh Plate Glass Opens Atlanta Paint Plant

The largest paint manufacturing plant in the Atlanta area and one of the largest in the Southeastern United States was formally opened in Atlanta, Oct. 9, 1952, by the Pittsburgh Plate Glass Co. Situated on a 14-acre tract in the Empire Industrial Area of East Point, Ga., the plant fronts on Oakleigh Drive, approximately six miles S.W. of Atlanta.

Designed for rapid flow production of a complete line of house paints, varnishes, enamels, resins, industrial and specialty finishes, the plant is the third ultra-modern paint producing unit to be put into operation by Pittsburgh Plate in recent years. Others are located in Springdale, Pa., and Torrence, California.

.....SERVICE

• **V. L. McDermott**
Color Stylist

• **J. H. Clontz**
Serviceman

• **L. C. Waddell**
Serviceman

• **R. W. Clark**
Serviceman

is our business

• Recognizing that service is all important, especially in product coating, Snyder Brothers maintains a staff of experienced men, as pictured on opposite page, who are available at all times to provide expert help on all practical finishing problems and the styling of colors for new suites. We will be glad to explain just how valuable this type of Service can be to you—no obligation. Write, wire or call us!

• Also, we would direct attention to our prompt and efficient delivery service via our own trucks or airplane, of such quality materials as lacquers, sealers, fillers, toners, glazes, NGR stains, and pigment wiping stains.

Snyder
BROTHERS COMPANY
Manufacturers **INDUSTRIAL** *of Quality* **LACQUERS**
P. O. Box 548 — TOCCOA, GEORGIA

A highboy canopy 34x20x76 inches

Finishing SALEM MAPLE

BY ROLAND F. WHITNEY
Foreman of Cabinet and Finishing Department at Randolph Furniture Co.

WHEN THE general public thinks of maple I believe that most people think of a definitely red color. It is not a color that is by any means neutral or that lends itself well to any and all backgrounds. It is a color that arouses violent likes and dislikes. Those who like it want a house full of it, and those who don't like it consider the others crazy.

However, the public is becoming increasingly aware of a different maple finish—one that greets the eye with subdued beauty; that possesses a warm undertone and a depth and clarity worthy of application to maple furniture of the highest quality. It is Salem Maple —briefly, an attractive, warm, live, light brown maple with lighter undertones.

Here at Randolph Furniture Co., in the heart of Vermont's Green Mountains, we have for 14 years specialized in this type of finish, under the name of "Randolph House Maple".

Randolph manufactures a line of bedroom furniture of unquestioned

quality, using only the best grades of Vermont Rock Maple, milled, assembled and finished by craftsmen of the second and third generation. This finish was chosen as the only suitable compliment to the pride of workmanship embodied in the piece itself. For those of you who are unfamiliar with this type of finish, I will submit a complete outline of the procedure, as we use it.

The Toner

After a thorough hand sanding with No. 4/0 cabinet sandpaper, all dust is blown off and an NGR type toner is applied directly to the wood. This toner is best described as having a smoky color with a slight red-purple cast. It is sprayed from a gravity-feed container at 60-lbs. pressure and is applied as a "dry coat". The purpose here is merely to tone the surface of the wood and not to attain any particular depth of penetration.

We purchase our toner all ready prepared for use, but an alternative which I recommend, until you know exactly what you want and can give your finishing supply house a wet sample, is to purchase the concentrated liquid dyes—red, yellow, and (blue) black—together with some of the proper solvent.

For a start, add 20-oz. (liquid) of the red, 10-oz. of the yellow and 15-oz. of the black concentrates to 3-gallons of solvent. This will give you the approximate desired color and can be manipulated by the addition of one or more of the concentrates, or more solvent. I would suggest toning several large panels with different concentrate ratios. Let me emphasize too that the man chosen to apply this toner should have an excellent eye for color, as a subtle change here will result in a very noticeable difference in the finished piece.

The Stain

A medium brown, pigmented, uniforming oil stain is sprayed on after toning, and the stain is thoroughly wiped off with soft, absorbent rags. Here again, until you have fully decided what you want, I suggest trying several different stains, both for color and workability. Tried in combination with the several previously toned panels, this experimental practice should reveal the exact combination of toner and stain you want. We allow an overnight dry on this stain. The pieces are then inspected for any flaws that might require further sanding.

Patching

Patching is a bugaboo in any shop. Here at Randolph we have evolved a method that, barring mishap, eliminates the need for any touching-up, burning in, padding or patching after the top coats are applied. Regardless of preliminary inspection, some flaws will not be seen until they have picked up pigment from the wiping stain.

Scratches and cross sanding are spot sanded and well feathered to the edge. Dents are filled with a properly colored plastic wood and spot sanded and feathered. These spots are then toned and the wiping stain is applied by a rag, blended and wiped dry. Skill will be developed in this patching to the point where the patch is not noticeable.

(Continued on page 82)

Naturally, a further drying time is necessary for the few pieces that require this step.

Sealer

Maple is one of the poorer woods from the standpoint of adhesion of finishing materials. For that reason we use a slow drying, penetrating non-sanding type of sealer. I will not argue here on the merits of a sanding vs. a non-sanding sealer. I will simply state that I have seen a gouge in one of our tops (somehow marred in transit) 3-in. long, an inch wide and approximately ⅛-in. deep, from which it is impossible to disturb the finish with the thumb nail.

Top Coats

After a 4-hour air drying, the sealer coat is scuff sanded with No. 6/0 finishing sandpaper. During the drying time, drawer interiors are given a coat of finish. A double pass of a 30% solids gloss lacquer is used as a finish coat. This again is an air-drying material and is so formulated that we can double coat a vertical surface without runs or sags; and we can coat tops with a minimum of orange peel trouble. Further, it will take a 25-cycle cold check test.

Rubbing

We have found that under most conditions these top coats are print free in five hours. However, we prefer an overnight drying before rubbing. Tops are wet sanded with an air-driven machine, using No. 360 wet-or-dry sandpaper and a mixture of mineral spirits and rubbing oil as the lubricant. Tops and drawer fronts are machine rubbed with pumice and oil. Ends, skirts, moldings and partitions are hand rubbed.

"Honest, Babe—you've got the best finish I've ever seen in this plant."

Clean Up, Polish and Inspect

All sanding sludge, pumice and oil are picked up by careful wiping with soft rags. Drawer interiors are sanded and waxed. A coat of cream wax is used as a final polish. After a final inspection the piece is ready for packing and shipment—perhaps to Maine, perhaps to California. Regardless of its destination, a one-year guarantee against structural or finish failure accompanies it.

Davis Promotes Steltz

The H. B. Davis Co., makers of "Davis of Baltimore" paints, announces the appointment of Aaron Steltz as Assistant Chief Chemist—first assistant to John J. Kelley, Chief Chemist.

DeBURGH PATENTS:

. . . provide for powered, partially powered and gravity systems.

Our recommendations are for a powered system to provide:

1—Production Control

2—Cost Control

3—Eliminate All Pushing or Shoving

***4—Automatically Putting Pallets into and out of "Close Pack"**

5—Develop a Rythmic Operation

*{Reduces Conveyor Length Usually By One-Half
{Reduces Drier Size Usually By One-Half

DeBurgh patents pending permit the use of conveyor in small plants heretofore unable to install conveyors.

INVESTIGATE—*No charge for estimates*

DeBURGH CONVEYORS

For Assembly, Finishing and Upholstery

1741 K St., N. W., Washington 6, D. C.

U. S. and Foreign Patents Issued and Pending

ROCKFORD WRINKLE FINISHES

ATTRACTIVE ONE-COAT COVERAGE FOR METAL PRODUCTS

Machines — from sewing to adding . . . boxes — from tackle to lunch . . . and hundreds of other metal products look better and stay better looking with Rockford *Wrinkle* Finishes.

In these quality-controlled specialty finishes you get complete, economical one-coat coverage even including metal imperfections and blemishes; a tough, durable protective surface; and a distinctiveness that puts more life into metal items.

Whatever your requirements, drop us a line and we'll comply promptly with a solution to your wrinkle-surface problem. If you have an Army or Navy contract calling for wrinkle finish, we can work with you to help meet rigid AN specifications.

Research, Quality, Service

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS
Manufacturers of Protective and Decorative Coatings

Affiliate
GORDON BARTELS CO.
Roller Coating Specialists

Commendable

• Some of our customers make products of outstanding beauty. Others make machines that undergo terrific abuse. However, these customers have one thing in common . . . they have the advantage of using individualistic coatings prepared to their specifications along with the know-how of our experienced technicians. For a finish that will meet your requirements for attractiveness, stability, and genuine satisfaction, let us supply you. Write us regarding your problems.

Research, Quality, Service

ROCKFORD VARNISH *Company*
ROCKFORD ILLINOIS

Manufacturers of Protective and Decorative Coatings

Affiliate
GORDON BARTELS CO.
Roller Coating Specialists

Automatic Spraying

Please advise if you have names and addresses on file of manufacturers of automatic spraying equipment. If so, please forward this information to us.—*W. I. W.*

Names and addresses are being sent you by letter.—*Editor.*

Flow Coating Machines

We are designing a complete new finishing system for a local manufacturing plant. This system is to use both spray and flow coating for the application of paint.

We will appreciate your furnishing us the names of one or two reputable manufacturers of paint flow coating machines. We will also appreciate any recent tear sheets that you might have concerning such machines.—*W. J. Co.*

Most of the paint flow coating installations, we believe, are custom built or assembled to fit the shop conditions and type of work under consideration. Essentially they include a tank or container of paint, one or more pumps, piping, flow nozzles and some sheet metal for a partial or complete enclosure through which the work is moved by conveyor.

In a letter we are naming a few concerns that have made such installations.—*Editor.*

"Sca-Rid" Pencils

Will you please furnish us the name and address of the company that makes or supplies "Sca-Rid" pencils, as mentioned on page 90 of *Industrial Finishing* for August, 1952. P. & L. Co.

The name, as given in the item, also appears in the advertisers' index and in an advertisement on page 117 (with the address) of that same issue. —*Editor.*

Flock Finishes

I am interested in obtaining some information on flock finishes. I am writing you in hope that you may be able to inform me as to the addresses of concerns who can supply flock equipment, adhesives and informative literature.—*C. H. O.*

In a letter we are naming a number of concerns in each of the classifications you mention. Several articles about flock finishing have appeared in past issues of *Industrial Finishing.* —*Editor.*

Polishing Flat Surfaces

We are putting a highly polished lacquer finish on a dining table we manufacture. We are getting good results with a revolving disc polisher (1500-rpm.) with a 7-in. diameter pile fabric pad and a compound sold by J..... W..... Co. However, this is a very slow operation, and as all of the surfaces we polish are flat,

Conveyor Line
Finishing Supervision

A GOOD C.L.F.* OPERATION should start with wood veneers and solid lumbers that are properly kiln-dried and sanded. This is important.

In our preceding advertisements we discussed the sizing and staining operations.

The next scheduled operation is the application of wash coats. In most plants wash coats are generally used over non-grain-raising stains. It is generally acknowledged that wash coats made of lacquer sealer or lacquer produce a more brittle finish.

Mac's C.L.F. Wash Coats are specially formulated to meet specific conditions and to make the finish tough but not brittle. They produce a clear finish, free of cloudiness, will enable the filler to give a better filled pore, and do not puff nor swell when the final coats are applied.

If you are planning a new C.L.F. set-up, or if you are planning to convert your finishing production to C.L.F., our technical men have the "know how" to set up your schedule of operations and to recommend the materials to be used. They are at your service, without obligation. A phone call, wire or letter will give you the details of the recommended procedure to work out and solve your particular problems.

*Conveyor line finishing.

OUR 77TH YEAR OF SERVICE

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875

Manufacturers of

FILLERS—STAINS—VARNISHES—LACQUERS—SEALERS—PRIMERS AND SPECIAL FINISHES FOR CONVEYOR LINE PRODUCTION

7430 STATE ROAD PHILADELPHIA 36, PA.

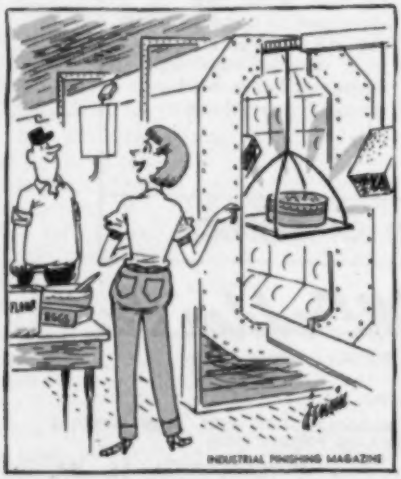
we are wondering if there is any kind of stationary equipment, perhaps having several rotary pads, which we might investigate?—*H. Mfg. Co.*

Yes, there is a large long-stroke machine that will take sanding, rubbing or polishing pads. It is made in Jamestown, N. Y. In a letter we are giving you the name of the manufacturer.—*Editor.*

Synthetic Patching Sticks

In the August issue, on page 76 and 80, we read an article on "Patching Procedures" by Herman Hardesty. We manufacture a line of high gloss finished furniture and would appreciate your advising us where we can purchase these synthetic lacquer sticks that are suitable for repair work on the high gloss finish.—*M.C.Co.*

Several others have made this same inquiry. We have replied by letter, giving them two or more sources of supply.—*Editor.*



"Okay, Eddie. 350° for about 30 minutes."

To Clean Alumilite

We would appreciate any information you could send us as to products you would recommend for cleaning Alumilite store fronts.

P. S. Do you know anything about Redsem (a polish and cleaner)?—*R. & H.*

Have you tried a liquid cleaner-polish such as is made for automobiles. Several different brands are probably available at your local (N. Y. C.) stores.

We have never heard of "Redsem" and do not find it in our directories. —*Editor.*

Dipping, Bonderizing and . . .

I am interested in the names of manufacturers of dipping equipment, both in conjunction with Bonderizing and dipping, and baking small parts. I would appreciate your sending me a copy of the names you referred to in answering the S.E.Co., as shown on page 86 of September 1952 issue of *Industrial Finishing.* From that, I can select someone in this territory (Trenton, N. J.) that builds this type of equipment.—*H.J.S.*

Information supplied.—*Editor.*

Reprint in Spanish

We are interested in having, translating and eventually including in our monthly magazine "SEP", Mr. Paul Blackmore's 12-page article entitled, "How Much is a Gallon of Paint Worth", as published in August 1950 issue of this magazine. We beg you to send us a copy of same, with the corresponding authorization for our reprint in Spanish, without commercial purposes. Our magazine has no selling price and is for free distribu-

"LIQUID ENVELOPE"

PEELABLE SPRAY-BOOTH COATING

THE FIRE-SAFE—LABOR-SAVING METHOD THAT ELIMINATES HEAVY OVER-TIME FOR SCRAPE DOWNS

You'll never know how simple and easy . . . and inexpensive . . . it is to peel-off all accumulated overspray until you use "LIQUID ENVELOPE", the original and still the most satisfactory "strip coating". Why not order a 5 gallon can at the drum-lot price today?

BETTER FINISHES & COATINGS, INC.

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Grapek Paint Co., Newark, N.J.
H. J. Gottemuller Co., Inc., Baltimore, Md.
R. W. Renton Co., Cleveland, Ohio, Indianapolis, Ind.
Supplee-Biddle-Steltz Company, Philadelphia, Pa.
Dean & Barry Co., Columbus, Ohio
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Melson Industrial Supply Corp., Grand Rapids, Mich.
O'Donohue Sales Co., Milwaukee, Wis.
Paints & Lacquers, Inc., Chicago, Ill.
Tanner & Co., Indianapolis, Ind.
Metal Goods Corp., St. Louis & North Kansas City, Mo. Dallas & Houston, Texas, Denver, Colo., New Orleans, La., Tulsa, Okla.
Hubbard & Stau, Los Angeles, Calif.
The Plastic Paper Co., Los Angeles, Calif.
C & H Supply Co., Seattle, Wash.
Hugh Russel & Sons, Ltd., Montreal & Toronto, Canada

tion among members and paint manufacturers and sellers. As a rule, any translation into Spanish included in it bears the respective reference about the origin and the name of its writer. *—R. Lopez, S.E. de P., Buenos Aires, Argentina.*

We are pleased to grant you permission to translate and reprint this article in your publication, but request that you include a credit line to the effect that it is reprinted from *Industrial Finishing Magazine, Indianapolis, Indiana, U.S.A.—Editor.*

Super Inspector Wanted

In the October issue of *Industrial Finishing*, under Random Comment, the paragraph "Super Inspector" was drawn to our attention. This might be of great interest to us, and we would appreciate your sending us more information on this device.—*W. Mfg. Co.*

For further information write the Magnaflux Corp., 5900 Northwest Highway, Chicago, Ill.—*Editor.*

Connelly's Article Helped Me

Mr. H. H. Connelly: Your article "To Make Spray Booths Work Better", in the Sept. *Idustrial Finishing* (pages 52-56), was received with great interest and appreciation.

During this past summer I was employed by a leading manufacturer of spray booths. Here I was learning the construction of spray booths and other finishing equipment to be able to sell this equipment with a better knowledge of it. Many times a customer will come up with problems, such as you covered in your article, and turns to the salesman for an answer. You have been a lot of help in this field with your direct presentation of hints which are so often overlooked. Congratulations and thanks for your practical article.—*T.O.N., Notre Dame, Ind.*

"I wish the company would quit bidding on these odd-job contracts."

Durable Finish for Tables

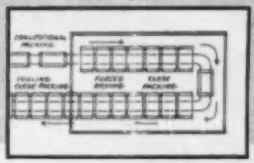
We have wooden tables in our restaurant at the ski area on the mountain, for which we are trying to obtain a durable finish—one which is especially hard and which will be resistant to cigarette burns. These tables are constructed of soft pine or spruce.

The United State Forest Service suggested that we write you, believing that you will be able to give us information on some kind of finish which will solve this problem for us. *—B.B. (in Vermont).*

Several manufacturers can supply a finish that will meet your requirements. In a letter we are naming a few of them.—*Editor.*

ONLY THE DEBURGH* CONVEYOR OFFERS THIS PATENTED TIME- AND SPACE-SAVING

"CLOSE-PACK" feature



KOCH BUILDS:

- SPRAY BOOTHS
- METAL WASHING EQUIPMENT
- COMPLETE FINISHING SYSTEMS FOR BOTH WOOD AND METAL
- AIR MAKEUP SYSTEMS

*Pat. No. 2,317,675

COMPLETE FURNITURE FINISHING SYSTEMS

- ENGINEERED
- BUILT
- INSTALLED

BY KOCH

Pallets automatically "close-pack" at drying, flow-out and cooling stages, saving floor space, dryer and heater size. Savings are usually sufficient to pay for the entire system in 12 months or less! Whatever your production rate, you can hardly afford to be without a DeBurgh complete finishing system. Let us show you why!

PHONE, WIRE OR WRITE TODAY!

GEORGE KOCH SONS, INC.

EVANSVILLE, INDIANA

Trapping Exhaust Spray

Is there any other way of trapping exhaust spray than the water-wash method?—*X. Co.*

The use of baffles in a dry booth to improve air distribution and give partial collection of overspray is fairly common. Sometimes these baffles are not satisfactory because of ineffective collection and because of the cost of cleaning the baffles and the down-stream duct work.

Another dry method of trapping exhaust spray consists of replacing the usual baffles with a bank of unit type paint arrestor pads. By this system, air is forced through disposable pads with thousands of small baffles arranged in such a way that the air exhausted from the booth passes the pads in a turbulent manner. Air-borne exhaust spray is thrown against these baffles where it adheres and is collected.

Maintenance requirements are limited to removing and replacing these pads when they are filled with overspray. This system is extremely flexible and can be adapted to most paint spraying operations. It is easy to install and requires a minimum of maintenance.—*R. P. Co.*

What Color for Heaters

A client of ours is considering the subject of color of his products. Historically, they've been painted green. However, our client would like to review the entire subject to determine whether he should continue with his present color, substitute a new color or colors, or do something entirely different. Whatever he decides to do he'd like to have based on current thinking on the subject of color.

He manufactures heating specialties which go into the basements of homes and in many industrial plants.

Have you published any articles recently that would be of any help to him in making a decision? Any suggestions you have for his self education would be appreciated.—*P. R. T. (New York City).*

One large nationally known concern to whom we referred your question has this to say:

"Green is still widely used but there seems to be some trend toward browns, particularly in one-coat hammered finishes. It is suggested that they consult an industrial engineer to solve their particular problem.

You might also read the editorial, "Colors of Products Choice of Public", which appears on pages 128 and 129 of August 1952 issue of this magazine.

There are many color consultants right in your city, among them being Faber Birren, 500 Fifth Ave., Consultant for Sun Chemical Corp.—*Ed.*

Highly Heat Resistant

We would like to obtain information on ceramic paints. The one particlar applications for which we need this information requires heat resistance up to about 600° F. and reasonably high dielectric properties. The paint in question must not be brittle. It is to

Du-Pros SHELLAC

Strictly pure, of course, and carefully made from fine ingredients, Day's Shellac is trade-marked Du-Pros from the double process which produces the best shellac varnish.

Industrial Finishes for Application by All Methods

LACQUERS
SEALERS
STAINS
GLAZES
FILLERS
UNDERCOATS
ENAMELS

SPECIALTY FINISHES

• *IN STEP WITH THE TIMES*

JAMES B. DAY & CO.

CHICAGO 14

be applied to iron and preferably, it should be air drying. We will appreciate it if you will give us sources of procurement or any other information available.—*D.Co.*

We believe we have such a material and are pleased to offer, for your consideration, the following:

The product in question is our 7X942 Sicon High Dielectric Black. Recommendations for application are: Reduction, two parts of Sicon Black 7X942 to one part of Sicon Reducer S-744. Application, spray. This material will air dry, but for purposes of record a 30-minute bake at 400° F. is desirable.

We suggest that the metal be chemically clean and that a minimum film thickness of .5 to .75 of a mil be applied.—*Midland Industrial Finishes.*

Dustless Spray Painting

In the June 1946 issue of INDUSTRIAL FINISHING Magazine, page 90, is an article entitled, "Dustless Spray Painting."

Equipment referred to in the article was a Norris electric sprayer. According to your records you stated that this sprayer was originally made by Electrical Painting Equipment Co., Inc., 513 Grand Central Palace, New York, N. Y., and later it was manufactured by Jas. H. Mathews and Co., 3942 Forbes St., Pittsburgh, Penna. That was about eight years ago and your reference card now bears the notation "no longer made" as of June 28, 1944.

If you have any further information concerning the Norris sprayer at this time, or a presently made electric sprayer which does not use air and which is similar to the Norris equipment, we would appreciate your furnishing us with the name of the supplier and their location.—*C. C. Co.*

We believe that the outgrowth of the Norris electric sprayer, which was small enough to be held in the hand and moved about by the operator, is a larger stationary machine called the "Norris Gyromat". An illustrated write-up of this larger machine through which a conveyor travels appears in June 1951 issue of this magazine, see pages 98 and 100. As you will notice it is (or was) made by The Gyromat Corp., Fairfield, Connecticut.

If you have been reading recent issues of INDUSTRIAL FINISHING you are familiar with two other types of spraying without compressed air or steam. One is Ransburg's No. 2 electrostatic spraying process (Oct. I.F., page 21) and Bede's Airless Atomization (Oct. I.F., page 102).—*Editor.*

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"The Theory and Practice of FINISHING FURNITURE"

from October, November, December, 1951, and January, February 1952 Issues.

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INDUSTRIAL FINISHING Magazine

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Slightly used

"American" Self-Cleaning

CONTINUOUS

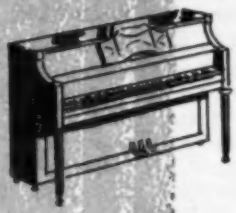
AIR FILTERS

Type S, No. 2999, 4-ft. x 12-ft.

George Koch Sons, Inc.

EVANSVILLE 4, INDIANA

For Finer Furniture Finishes



Use New

"CL-17 Sanding Sealer"

If you would like a better "hold out," plus a speed-up of your finishing system, use our new CL-17 Sanding Sealer. You'll be amazed at this product's performance. Why not ask us about a trial order?

CPL

COAST Paint & Lacquer Co. Inc.

P. O. BOX 1113, HOUSTON 1, TEXAS

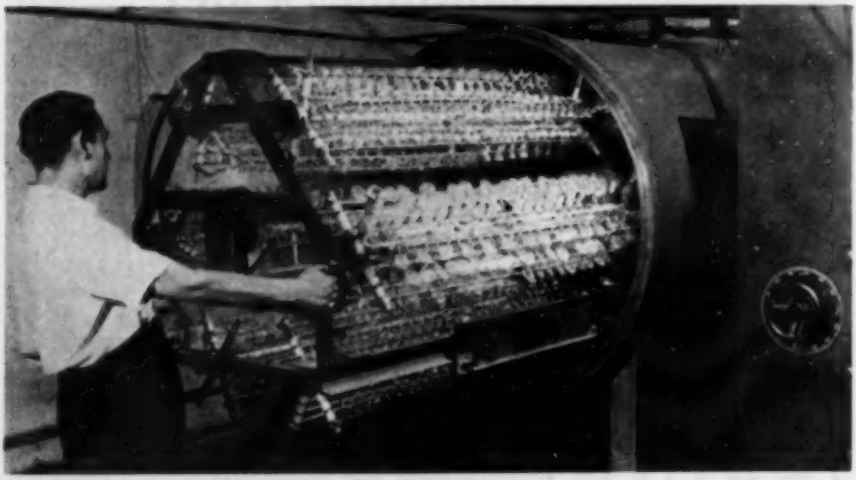
Vacuum Metallizing Finishes Costume Jewelry and . . .

Vacuum metallizing is a method of applying a smooth bright decorative metallic coating to prepared surfaces of products which are placed in a vacuum chamber and exposed to electrically vaporized metallic particles.

The object to be coated is generally a raw casting, usually of zinc and aluminum or white metal, as it comes from the mold. A lacquer undercoat is applied before metallizing. The pins (costume jewelry) are placed on "spider" (jig) frames and locked into the vacuum metallizing chamber in which a high vacuum is drawn by microvac pumps. The chamber contains an evaporation source or holder for the coating material, and jigs for holding the objects to be coated.

Most pure metals, some alloys, and a number of metallic salts have been used as coating materials. Commonly used metals are aluminum, gold, silver, chromium, zinc, and nickel.

The coating material is placed in the chamber and heated under high vacuum until it evaporates. When evaporation takes place in a high vacuum, metallic vapor particles travel in a straight line from the source until they strike a surface on which



Jig frame bearing decorative pins being withdrawn from the airtight vacuum metallizing chamber. Chamber consists of an evaporation source and holder for the coating material, and jigs for holding the objects to be coated. Coating metal evaporates in vacuum by passage of a high-amperage current. Metal ions deposit by millions to form a glistening smooth surface. The metallizing process eliminates the necessity for plating, buffing, and polishing.

they can deposit. The function of the jigs is to hold the objects so that the surfaces to be coated will intercept the metallic vapor particles from the source.

This spray of even depth and texture eliminates the necessity of plating, buffing, and polishing, and cuts production costs. As in the case of nickel, which is difficult to obtain, costume jewelers have abandoned using this metal, as well as other metals which are allocated to military uses. Because very little metal is used in vacuum metallizing, the economy in metal is high.

Anything requiring decorative finish can be vacuum metallized; fountain pens, umbrella handles, dresser sets, clocks, etc., are just a few of the items. Materials metallized include base metals, paper, cloth, plastics and others.

The vacuum metallizing equipment is manufactured by the F. J. Stokes Machine Co., 5500 Tabor Road, Philadelphia 20, Pennsylvania.

Rust Preventive Primer

A new type rust preventive formulation is announced by The Pioneer Chemical & Mfg. Co., 1826 Columbus Road, Cleveland 13, Ohio, for metal or wood.

Ingredients that are combined to make Pioneer Rust Preventive Pigmented Primer, include Bakelite (for durability and resistance to chemicals), China wood oil (durability and toughness, resistance to sun and moisture) and zinc chromate (rust-inhibiting qualities).

All ingredients in this exclusive formulation combine to produce a hard, tough coating of long-lasting durability that consistently and actively combats the effects of rust by preventing any formation of rust. It seals out air and moisture—the producers of rust on metal surfaces. This primer dries with a hard film, over which any type of decorative finish may be applied—even white or cream are not discolored when put on over it.

Portable Abrasive Blaster for Stripping Off Paint

A new portable sand blasting unit called the Porta-Brasive Blaster provides a quick and effective way to strip-off finish or paint from parts or the entire surfaces of furniture, automobiles, busses, trucks, trailers, boats, or any other products to be dry cleaned for refinishing or repainting. Pressures range up to 125-lbs.

Model PB-100. Overall Height, 41-in.

For complete information about details of operation, kind and grade of abrasive to use for various types of work, air pressure recommended, nozzle data, prices, etc., write Pruden Tool Co., Inc., 310 W. 68th St., New York 23, N.Y.

Cleaning and Surface Treating Machine

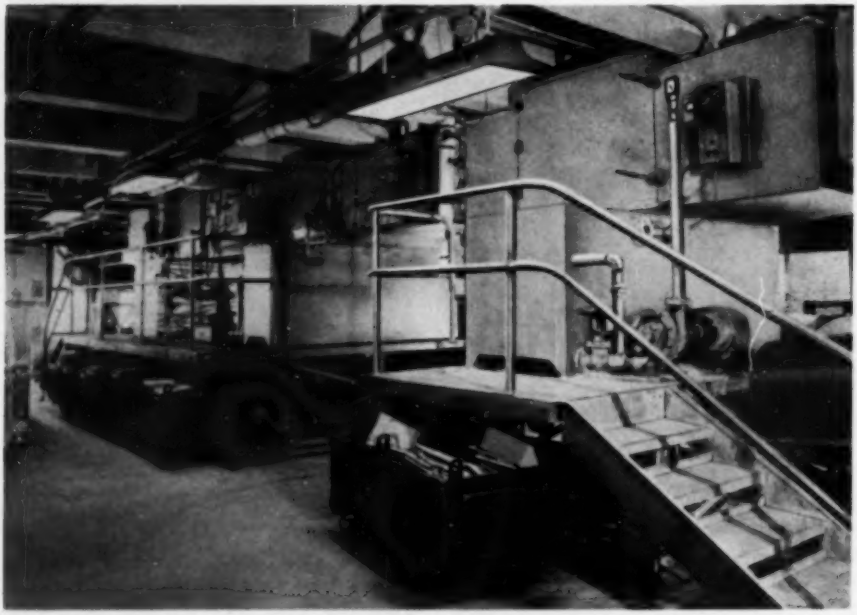
Recently installed at the Murray Mfg. Co., Brooklyn, N. Y., a new Lithoforming machine is currently processing 5000-lbs. of work per hour. The machine is 35 feet long, 9 feet wide and 7-ft. high; it is heated by steam, and washes and rinses as well as Lithoforms electric switch boxes for the company.

Specially designed and built for the purpose, the Lithoform unit of the machine is constructed entirely of stainless steel, including pump, all piping and spray nozzles. Another feature of this particular installation is the conservation of floor space by mounting the machine on an elevated platform. Considerable storage space at floor level is thus gained without sacrificing either necessary machine size or efficiency of operation. Further information about this product of Industrial Washing Machine Corp. is promptly available upon request to Industrial Systems Co., New Brunswick, New Jersey, exclusive sales agents for the manufacturer.

Sanco Hammer Finish Has Improved Features

The development of a new type of Hammer Finish Enamel which has previously unattained qualities, including utmost ease of application and complete uniformity of pattern, is announced by Monroe Sander Corp., Ten 46th Ave., Long Island City 1, N.Y., manufacturer of finishes.

Philip Frederick, vice president, states that this new product, known as Sanco Hammer Finish, results from the development of new synthe-



A machine especially designed for washing and surface treating metal parts and products.

HAVE YOU A *Tough* OVEN PROBLEM?

LET US HELP YOU SOLVE IT

If you have a baking or drying problem, our engineering staff, with a combined oven engineering experience of 150 years, will be glad to cooperate with you in designing an oven to fit your particular job. Write and tell us your requirements.

QUICK SERVICE

Unload end of refinishing oven for steel drums

MICHIGAN OVEN COMPANY MOCO

Write for Bulletin 951

MICHIGAN OVEN COMPANY

417 Brainard St. Detroit 1, Mich.

tic resins and eliminates many problems once faced by manufacturers of metal products.

"The new Sanco finish," he declares, "insures complete uniformity of pattern. Because of ease of application, a sprayer can work faster and get more mileage out of the finish. This will result in considerable cost savings to any manufacturer."

Mr. Frederick also points out that the new Sanco Hammer Finish, which is available in a wide variety of colors, bakes rapidly to an unexcelled adhesion, is chip and scratch resistant, and because it covers imperfections with one coat, it does not require any primer. He added that under baking conditions the finish has excellent color retention.

The Sanco Hammer Finish is excellent for all types of metal products, including filing and kitchen cabinets, automobile equipment, appliances, etc.

Seals Porous Castings 100%

A new combination of sealing materials and impregnation methods now makes possible the 100% "filling" of microporous voids in metallic castings, according to an announcement by Polyplastex International, Inc., 441 Madison Ave., New York, N.Y.

The process is based on the use of a specially-formulated thermosetting resin known as Polyplastex MC. This resin is distinguished by the fact that it is 100% reactive—that is, all of the sealant converts into a solid of excellent physical and chemical properties. When the liquid resin fills all of the pores, it occupies the same volume after it becomes solid.

The impregnating resin is resistant to a wide variety of solvents, water, salts, hydrocarbons and glycols, as well as acids and weak alkalis. The cured resin can withstand continuous

exposure to temperatures up to 350° F. Although it is hard, the resin is resilient enough to allow for expansion and contraction of the metal due to variations in temperature.

Leaking castings can be salvaged by one of the following methods: 1) External vacuum; 2) Internal pressure; 3) Internal vacuum; or 4) Vacuum and pressure—the most commonly used method. This latter method utilizes a vacuum-pressure tank in which the castings are placed. The tank is closed and a minimum vacuum of 29-in. (mercury) is applied. The sealant is brought into the tank to cover the castings, and 100-psi of air pressure is applied to the fluid head, forcing the sealant into all microporous areas. After impregnation, the castings are removed from the tank, their surfaces cleaned, and finally put into an oven to be cured. No surface stain or film is left by the process, so that the properties of the casting are not in any way impaired.

Measures Paint Hiding Power

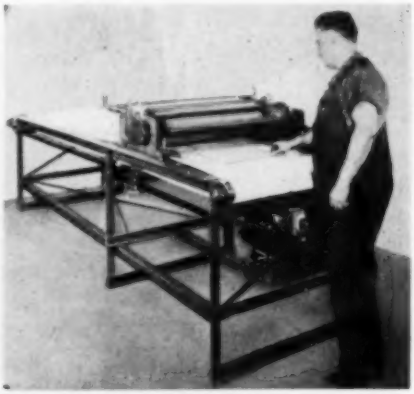
The Pfund Cryptometer makes possible a reliable determination of the true hiding power of a paint within three to five minutes. The results cover both the thickness of the paint (in mils) at its most efficient hiding power, and the coverage per gallon (in square feet) at this thickness.

The Cryptometer is furnished in three types: "Black and White Cryptometer" (can be used to measure the hiding power of paints and pigments of all colors, including all the chromatic colors, the blacks, whites and grays), Model "E" or "Black Cryptometer", and Model "F" or "White Cryptometer".

These instruments are distributed by Gardner Laboratory Inc., 4723 Elm st., Bethesda 14, Maryland.

Roller Coating Machine for Painting Flat Work

A new machine for painting flat panels of wood or other materials up to 2-in. thick and 30-in. wide is being marketed by Potdevin Machine Co., 285 North St., Teterboro, N. J. Paint coatings are uniform over the entire painted area and thickness of coating can quickly be adjusted from either side of the machine. Handling materials from ⅛-in. thick up to 2-in. thick is accomplished by simply adjusting an indicator to the required setting to coat material of any thickness. The coating roller is made of long-wearing rubber.



Machine is available in different sizes.

The machine is provided with an explosion proof motor. A Reeves variable pulley drive permits the speed of the machine to be adjusted to suit the various types of materials being coated. The feed tank is removable for easy cleaning. The conveyor supplied has 12-ft. of working surface; it can be equipped with a clutch to disengage, so the machine can continue to run when and if desired. Potdevin roller coaters can be supplied in other sizes.

No. 150
SpeedWay SpeedSander *Sands, Rubs, Polishes*
. . . FOR DRY OR WET FINISHING
Motor-Driven
3/16" Orbital-Motion

Powerful, direct-connected (no gears), 3450 r.p.m., 100-120 v AC air-cooled motor. All sealed ball-bearing construction. Die-cast aluminum housing, polished. All-position handles. In hand weight only 5 lbs. Insulated with ground wire for wet as well as dry sanding or rubbing. Available accessories—deep contour pads, surface plates, felts, etc. Takes any sheet abrasives—3 covers 4½" x 6½" from standard 9" x 11" sheet.

A time saving quality tool priced so every worker can have one.

$34.50

Write for Circular

SpeedWay MANUFACTURING CO.
1886 So. 52nd Ave., Cicero 50, Ill.

NEWCOMB-DETROIT

PIONEERS IN ENGINEERING, MANUFACTURE AND INSTALLATION OF

INDUSTRIAL OVENS
SPRAY BOOTHS
PARTS WASHERS
DUST COLLECTORS
AIR SYSTEMS

ESTABLISHED 1912
DETROIT DIVISION—GRAND RAPIDS DIVISION—
NEWCOMB INDUSTRIES LTD., WINDSOR DIVISION

For Bulletins and Quotations, Wire, Write or Call—
NEWCOMB-DETROIT
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Detroit 11, Mich.
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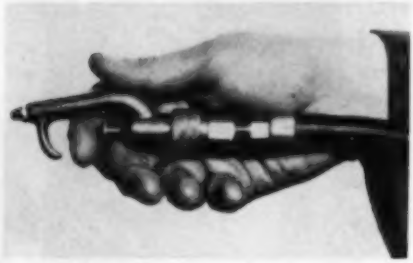
Blast Air Blow Gun

Supreme Machined Products Co., Spring Lake, Mich., now manufactures Tu-Flo, an ingeniously engineered air blow gun.



In ⅛, ¼ and ⅜-in. thread hose connections.

The positive 2-stage throttling action was developed to get away from the danger and discomfort of having a cloud of dust blown in the operator's face the second the air valve is released. For 9/10ths of the control button travel, only a small volume of air is permitted. If the operator wants the full blast, he pulls the button all the way.

Line pressure sealing makes the "triggering" easy and economical. By eliminating all springs and levers, leaving only one moving part, the Tu-Flo Air Blow Gun is unlikely to get out of order.

The shut-off valve is leak proof because it works against a pliant valve seat by its own pressure.

Electric Unit Heaters

The Chromolax UB series of blower-type electric unit heaters now includes a large 20-kw. model. The new heater is suitable for floor, wall or ceiling mounting.

The UB heater consists of a heavy gauge, sheet metal case with durable brown wrinkle finish, one or more Chromolax Koilfin strip elements sheathed with steel for safety, and a fractional horsepower motor blower. Adjustable aluminum louvers can be tilted to deflect the warm air stream up or down about 20°. A thermal cutout guards against overheating.

For more information about Chromalox unit heaters, write to Edwin L. Wiegand Co., 7559 Thomas Blvd., Pittsburgh 8, Penna.

3-in-1 Fire Fighter's Aid

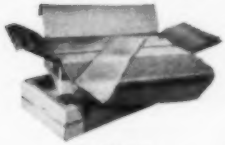
For quick, efficient fire-fighting, General Detroit Corp. and the General Pacific Corp. have designed a Quick-Aid combination fire extinguisher cart equipped with *three extinguishers designed to combat all types of fires.*

The important thing to remember is that this "Handy Fire Dolly" is a mobile unit and is easily wheeled into the emergency area by a man or woman; the proper extinguisher can

For putting out three kinds of fires.

For Dust Free Finishes!
BOND TACK CLOTH

IN ROLLS
Cut off any size piece to use as needed.



IN BULK
Cut and folded. Ready to use.

STAYS SOFT AND TACKY
A SPECK-FREE FINISH EVERYTIME

Now Available in Rolls or Cut Bulk—White or Gold. In Three Different Types of Cloth

Get your Tack Cloth packed just the way it's easiest for you to use . . . either in 150 yard rolls of 36" wide cloth or in handy cartons . . . 100 or more Tack Cloths to the carton.

No matter which way you buy it, you can be sure that every square inch will stay SOFT and TACKY until the very last bit is used up!

The Cut Bulk size is 18" x 36" . . . folded to 4½" x 18" for ease of handling. ALL BOND TACK CLOTH is **Spontaneous Combustion Proof, Lint-Free** and **Wax-Free.** Gives a sparkling speck-free Finish **every time.** Clean and sanitary. No waste.

TRY THEM and COMPARE RESULTS.
Samples Gladly Sent Upon Request.

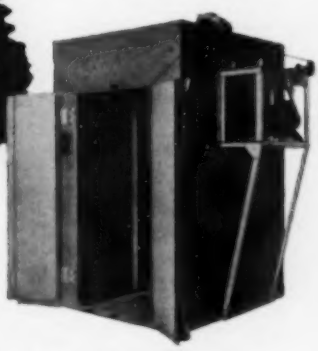
BOND CHEMICAL PRODUCTS CO.
"The Tacky Wiper Specialists"
2641 N. CLYBOURN AVE. CHICAGO 14, ILLINOIS

Also Individually Packed in Glassine Envelopes—144 to the Carton

A Warranty of Satisfaction in Every Carton

For Quality Baking at Low Operating Cost
you can count on

GEHNRICH OVENS



- ★ Standard recirculating type.
- ★ Electric, gas, oil or steam heated.
- ★ Bench, cabinet and truck loading models.
- ★ Efficient, uniform controlled baking or drying of finishes.
- ★ Broad range of sizes.
- ★ Prompt shipments.
- ★ Write for catalog.

Also all types of batch and continuous conveyor ovens; dip tanks; roller coaters; trucks, etc. to your requirements.

W. S. ROCKWELL COMPANY
2782 Eliot St., Fairfield, Conn.

then be selected and brought into action at once. One extinguisher, for example, can be used to put out fires caused by gasoline, oil, grease, paints and inflammable liquids originating either in open vessels or floor splash fires.

Complete information and literature of the Handy Fire Dolly is available from both The General Detroit Corp., 2272 E. Jefferson Ave., Detroit 7, and The General Pacific Corp., 1501 E. Washington Blvd., Los Angeles 21, Calif.

Improved Barrel Pump

An improved barrel pump, Model 101, is offered by Engineered Equipment Co., Box 207, Warsaw, Ind. It will handle a wide range of fluids, including viscous or oily liquids. Handle is turned one direction to drain barrel; turned opposite direction to fill barrel. Spout is threaded for ¾-in. I.D. hose connection. Combination 1½ and 2-in. bung nut is furnished. Fits ¾-in. suction pipe.

Empties a 55-gallon drum in ten minutes.

The unit is self priming, continuous flowing and non-dripping. Spout can be turned up to receive solvent or detergent for back flushing.

Portable Spray Unit

A new portable paint spray unit that will deliver more than 3-cu. ft. of air at 40-lbs. pressure, is announced

Sharpecraft "40" portable compressor.

by the Sharpe Mfg. Co., 1224 Wall St., Los Angeles 15, Calif. The unit is driven by a 1/3-hp. motor. It has new features including an oilless compressor with three ball bearings.

New Phosphating Line Developed by Turco

Development of a complete line of Turcoating materials, designed to fill every conceivable phosphating requirement and to meet applicable Government specifications, is announced by Pres. S. G. Thornbury, Turco Products, Inc.

The Turcoat line is comprised of five materials, one of which will provide the proper coating for any type of organic finishing, quickly, economically, efficiently. These materials are:

Turcoat 3540. Provides thin, smooth, tight phosphate coating on iron, steel or zinc, as a bond for paint or metal drawing. Applied by spray or dip.

Turcoat 3520. Provides substantial phosphate coating on iron or steel as

FUNCTIONAL FINISHES ! !

If you require your coatings to accomplish some specific task—something beyond mere ornamental appearance or average longevity—

TRY US!

We make ACRYLIC, ALKYD, CELLULOSIC and VINYLOID coatings for a very wide range of specialized industrial applications.

THE VARNISH PRODUCTS COMPANY
5206 Harvard Avenue **Cleveland, Ohio**

NON-INJURIOUS

ELECTRO

NON-INFLAMMABLE

COLD STRIPPER

FASTEST *in Action*

LOWEST *in Price*

WRITE FOR TESTING SAMPLE OR ORDER
5-GALLONS AT DRUM PRICE

Specify whether dip or brush type is desired

Allied Finishing Specialties Co.
2641 W. Grand Ave. • **Chicago 12, Illinois**

KEEP SPRAY BOOTHS SAFER FROM FIRE!

. . . WITH NON-INFLAMMABLE

BOOTHCOTE #4

FOR DRY WALL BOOTHS AND THE NEW

BOOTHCOTE No. 5 FOR WATER WASH BOOTHS

KLEENCOTE WATER WASH COMPOUND

Makes frequent cleaning easy. Premixed, ready to use, safe to store. Saves time, labor, no flaking off. Spray or brush on clean booth. When desired, operator peels off overspray in sheets. Advocated by insurance companies.

Money-back trial offer: 5 gals. **$6.25**

HYGRADE'S STERLING CREME

protects hands and arms from paint, grease, ink, etc. penetrating the skin. Soil washes off easily without harsh solvents or cleaners.

12—7 oz. Jars $6.00
Bulk prices on request

HYGRADE'S STERLING CLEANER

(WATERLESS HAND CLEANER)

dissolves grease, grime, fresh paint, tar, printers' ink, shellac, mastic cement, etc. without water.

12—14 oz. Jars $7.08
Bulk prices on request
All prices f.o.b. Buffalo

HYGRADE

FOOD PRODUCTS CORP.
Industrial Div., 18 Stetson St.
Buffalo 6, N. Y.

a foundation for oil, paint or other organic finishes. Applied by dip.

Turcoat 3420. Cleans and passivates iron and steel in one operation, improving paint adhesion. Applied by spray or dip.

Turcoat 3557. Provides substantial phosphate anti-friction coating for iron or steel moving parts. Applied by dip.

Turcoat 3560. Provides chemical coating on terneplate and other difficult-to-coat non-ferrous metals as a bond for paint. Applied by spray or dip.

Literature descriptive of all Turcoating materials, including applicable Government specifications, metals used on, coating weights in . . . ., purpose of coating, method of application, equipment required and operation cycle, may be obtained from Turco Products, Inc., Dept. D., 832 E. 62nd St., Los Angeles 1, Calif.

Quik-Masks for Anodized Metals Stand Baking

The W. H. Brady Co., 1640 Spring St., Chippewa Falls, Wisc., manufacturer of self-sticking industrial products, announces the addition of a new line of Quik-Masks developed specifically for use on anodized surfaces.

Material used for these new Brady masks is Minnesota Mining & Mfg. Co.'s No. 214 paper masking tape. This tape has recently been developed by 3M to meet the demands of the painting and plating industry for a tape that adheres to anodized surfaces during high heat baking cycles. It is easily removed after baking.

Anodized metal parts, such as castings, are frequently painted after being anodized. Certain areas must be protected from paint. Brady Quik-Masks provide this protection because they are pre-cut to the exact size and shape of the area that must be protected.

SAFETY SWITCH
THAT SHUTS OFF FUEL IF BLOWER FAILS

The Dewey Safety Air-flow Switch protects against opening of fuel valve until fan is up to speed. Insures purging of furnace before fuel valve opens. Closes fuel valve if fan slows up or stops. Flashes danger signal if fan or fuel stops. Safeguards against danger from gas fuel failure when used in connection with safety shut-off valve. Thousands sold. Factory Mutual and Underwriters Laboratories Approved. Standard equipment on leading products. Write for prices and literature.

DEWEY GAS FURNACE CO.
104 E. Baltimore Detroit 2, Mich.

FREE CIRCULAR

Dewey SAFETY AIRFLOW SWITCH

Morse Lock Lever Faucet

The Morse Mfg. Co. of Syracuse, N. Y., has added to its line of drum handling equipment, a new lock lever faucet with positive shut-off, non-leak features. Regular faucet washers are replaced with shakeproof cupped spring washers which exert constant and even pressure to keep the faucet plug seated. The even, circumference-round pressure of the cupped washer results in a more uniform seat on the lapped surface of the plug and prevents backing up and slipping.

The Morse faucet has ¾-in. pipe threading, and is available with or without threaded hose connection. The faucet is made of close-grained grey iron; finished with a special aluminum lacquer, and is recommended for use with any non-corrosive liquid.

New Liquid Stops Corrosion

The protection of mild steel from corrosion after cleaning can now be achieved by the application of a recently developed homogenous solution known as Kelite M-2. The product affords excellent corrosion inhibiting properties, eliminates the need for drying prior to treatment, and is impervious to fingerprinting.

Kelite M-2 may be applied by immersion, spray or brush. It is non-flammable (flash point 140° F.), non-phenolic and non-toxic. It will not burn the skin and its vapors are not harmful when breathed. It has the unique ability to displace and absorb up to 11% of its own volume in water

without impairment of efficiency. It is this quality which makes it possible to eliminate the drying operation prior to treatment. Complete details are available from the manufacturer, Kelite Products, Inc., 1250 N. Main St., Los Angeles 12, California.

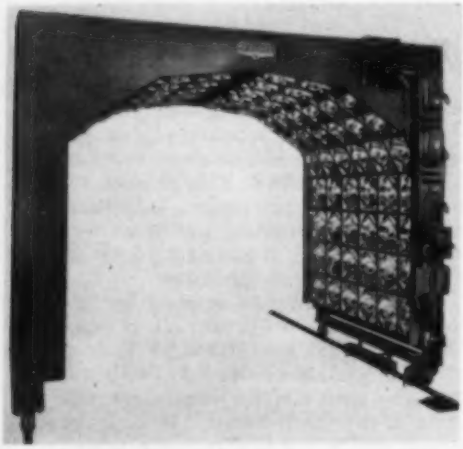
Infra-Red Drying Units Offered by DeVilbiss

The DeVilbiss Co., 300 Phillips Ave., Toledo 1, Ohio, has added to its line of spray equipment, infra-red baking panels and traveling infra-red ovens in a range of sizes to handle complete cars and small trucks.

The compact traveling oven provides the means for shops to increase production and turn out factory-like hard, glistening baked enamel paint jobs. For sectional and touch up jobs the radiant panels may be used.

The ovens come in three sizes and employ the same principles as found in paint drying units used in motor car manufacturing plants.

The unit is fully automatic and comes equipped with electrically coupled timer and speed control mechanism which eliminate hazards of over baking. In addition, selection switches control individual lamp zones so that just one side or the top area of a car can be baked without using the entire unit.



Banks of lights can be cut out if desired.

For spot painting jobs the DeVilbiss Co. has baking panels in 48x48-in. or 70x92-in. in size. These radiant panels will produce the same quality jobs as the ovens and will dry a complete car paint job when used in pairs.

The infra-red heat bakes enamels in as little as 30 minutes and dries lacquer and undercoats in 10 minutes or less. All of the ovens and panels carry Underwriters Laboratories, Inc., and Canadian Standards Assn. approval.

Corrosion-Resist. Tank Liners

Corrosion-resistant tank liners made of Agilene (polyethylene) and Agilide (Unplasticized Polyvinyl Chloride) are now offered by the American Agile Corp., P. O. Box 168, Bedford, Ohio.

These tank liners, which are of fully welded construction, are made to customer's specifications and can be furnished complete with drain and overflows, including Agilene or Agilide pipe flanges, fittings and valves, permitting incorporation into existing pipe lines and installations.

New Ionic-High Potential Paint Spraying Equipment

Scientific Electric, well-known manufacturer of high frequency and high voltage equipment of Garfield, N. J., recently announced the development of its new Ionic-High Potential Paint Spraying Equipment.

A feature of this equipment is the Ionic-Gun. This new spraying unit was designed on a principle of charging the paint electrically within the

Flock for finishing

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America's No. 1
Source of Supply. Modern Manufacturing Facilities.
Careful Processing Supervision. Finest Quality Materials.
Standard Lengths 1/32" & 1/16", Other Lengths
to Specifications. Rainbow Range, 18 Colors.
Sealed, Dust-proof Bag Shipments.

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CLAREMONT WASTE MANUFACTURING CO., CLAREMONT, N. H.

CLAREMONT FLOCK
Quality-Famous

A Quick, Smooth, Uniform coating—assured by
BARRETT GALVANIZING AND HOT TINNING CENTRIFUGALS

BARRETT CENTRIFUGAL GALVANIZER is driven with high torque head and has an equalized disc brake for quick stop.

With the Barrett Whizo Galvanizer, excess metal is quickly removed from small parts after dipping in molten metal, in fact, much faster and more uniform production is assured. Parts will also pass the most rigid inspection for quality.

The method of handling is simple and easy. Work to be coated is placed in a round basket and submerged in molten metal. When thoroughly heated, the basket is placed in the Barrett Centrifugal to be immediately accelerated to high speed, the excess metal being thrown off before it can cool.

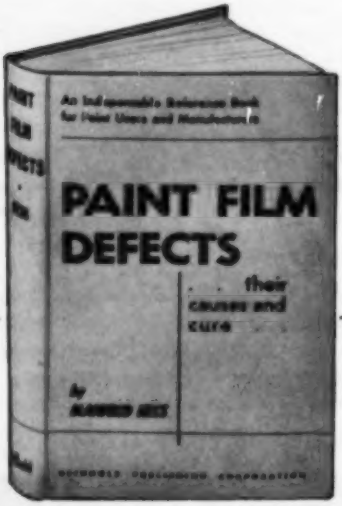
A quick pick up and stop (from 2 to 3 seconds each) assures maximum production with an even thickness of coating.

Machines furnished with or without heated surrounding drum, in capacities from 40 to 240 loads per hour, handling from 5 to 100 lb. loads. When used for tinning threaded work, rethreading has been found to be unnecessary.

Barrett Centrifugals are used extensively, combine speed with convenience of operation and the utmost in safety. They are highly developed to meet all reasonable requirements, have self-contained motor drive and occupy a minimum of floor space.

Send at once for full details of Barrett Centrifugal Galvanizer

THE LEON J. BARRETT COMPANY
Designers and Builders of Centrifugal Machinery
1703 GRAFTON ROAD WORCESTER 1, MASS.



HERE ARE enumerated in this remarkably valuable book of 544 pages, all of the common and a variety of unusual and seldom heard-of defects and objectionable features that occur in paint, varnish, lacquer and synthetic enamel finishes; their probable, possible or real causes given; the effects described, and means of preventing and remedying these troubles fully outlined.

Chapters deal with these defects and troubles as they occur, 1) during or as a result of storage and preparation of materials before finishing; 2) when the materials are applied by various production methods and equipment; 3) during handling, processing or drying after application; and finally, 4) when and after the finished goods are shipped, displayed, stored or placed in service.

Defects covered include many more than could be named here, but to mention just a few there are; runs, sags, tackiness, films, too thin or too thick, slow drying, orange peel, alligatoring, wrinkling, pimples in films, pin holing, cracking, blistering, lifting, bleeding, blushing, blooming, discoloration, rainbow effects, gloss and dull areas, grained appearance, and scores o others.

Practical information is also revealed in reference to safety precautions to prevent fires or accidents in paint shops and finishing rooms, skin troubles of workmen, poiso... from paint materials and fumes.

By referring to the "subject Index" of 84 pages in back of the book, it is possible to locate quickly, the answer to any particular failure, cause or remedy.

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INDUSTRIAL FINISHING

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spray apparatus itself. With the Ionic-Gun, paint is highly ionized so that it differentiates between painted and unpainted surfaces, producing an even finish and penetrating into all cavities and crevices. As a consequence, less paint is used in actual operation and product quality is increased significantly.

Through design, the equipment increases efficiency so that one man produces more than the four normally required on most operations. It also saves over 60% of the paint used by conventional methods.

This paint spraying unit includes an Ionic High Potential Power Supply and Control, also recently developed by Scientific Electric, which is available in an 80 to 140-K.V.P. range. Installations will accommodate power inputs at all standard voltages.

The Ionic-Gun is designed for use with a wide variety of adapters suitable for almost any industrial or commercial application. Installation has been simplified and skilled labor is not required for the operation of this paint spraying equipment.

Heat Resistant Finish for Automobile Manifolds

Sicon, the heat-resistant silicone-base finish, has received a real "baptism of fire" in the automotive field.

The manifold on the average automobile loses its new appearance in a relatively short time. The extremely high temperature to which the point on a manifold is subjected results in unsightly dulling, film deterioration, loss of adhesion and corrosion.

Lincoln Engineers, experimenting with various heat resistant finshes, discovered that Sicon Black 7X933 maintained its appearance, color, and film integrity, under these exacting operating conditions.

Under laboratory conditions, a Sicon

West Coast Distributor: H. Behlen & Bro., Inc., 1755 Berkeley St., Santa Monica, Calif.

Black coated manifold for the 1952 Lincoln was subjected to 1000° F. for 24 hours—a test substantially more severe than actual operating conditions. The results of this test demonstrated this coating material to be suitable. It is a product of Midland Industrial Finishes Co., Waukegan, Illinois.

Pressure Test Gauge

A periodic check of pressure instruments with a reliable test gauge is desirable in the interest of safety. Such an instrument is the 6-in. Model P Test Gauge, made by The Foxboro Co., Foxboro, Mass. This gauge not only serves in checking pressure controllers, recorders and indicators, but also furnishes a standard of accuracy for calibrating other pressure testing equipment in the instrument department.

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"Brush-On" Neoprene Coating

Applied by brush, dip or spray a new air-cure protective coating for industrial maintenance work on structural steel, concrete, wood, and other surfaces is now available.

Designated "Proco Liquid Neoprene Coating," the material does not require elaborate surface preparation

BOOKS
On Finishing Available

"MODERN ORGANIC FINISHES—Their Application to Industrial Products" (452 pages) new $8.50

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"THE SCIENCE OF MODERN WOOD FINISHING" (386 pages) 6.00

"PAINT & VARNISH TECHNOLOGY" (509 pages) 8.00

"METALLIC AND NON-METALLIC COATINGS FOR GRAY IRON" (76 pages) 1.75

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and provides the merits inherent in DuPont Neoprene. Like Neoprene itself, the liquid coating is chemically stable and highly resilient, which means long life even under the most severe conditions.

"Proco Liquid Neoprene Coating" air-cures at normal temperatures, yet will not gel or "set up" in the container. Its particular field of usefulness is in the applications where intermittent contact with acids or constant exposure to corrosive fumes create protection problems too rigorous for bituminous or oil-base industrial paints.

Further information and specifications may be obtained by writing to Connecticut Coatings, Inc., 45 E. Putnam Ave., Greenwich, Conn.

Temperature-Humidity Tests

To supply industry with a standard line of test chambers for conducting temperature-humidity tests, Tenney Engineering, Inc., 26 Avenue B, Newark 5, N. J., has standardized on five basic chamber types. This standardization permits purchasers to select chambers from existing specifications and eliminates the extra cost of custom built models. These chambers automatically maintain humidity from 20% to 95% through a temperature range of 35° to 185° F. Minimum dew point is 33° F.

"Glare-Out" Coat for Windows

A new product which makes it easy and inexpensive to coat windows and skylights with a clear, transparent blue-green tint, thus increasing visual comfort in offices and factories is announced by the Fade-Proof Corp., of America, 3520 N. Spaulding Ave., Chicago 18, Ill.

This new product "Glare-Out," can be sprayed or rolled on windows or

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Whatever your problem, you'll find the answer when you call for New Period Production Finishes. For here's a wide line of quality finishes that's satisfying discriminating users year after year.
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• Sealers
• Lacquer Enamels—Flat and Gloss
• Synthetic Enamels
Write for 5 Gallon Working Sample at Drum Price
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NEW PERIOD Production Finishes
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NEW YORK WOODFINISHERS' Supply Co. INC.
109 IMLAY STREET BROOKLYN, N. Y.

skylights to cut down heat and glare from the sun. One gallon covers up to 400-sq. ft. and can be put on with a spray gun or mohair paint roller. The use of a paint roller creates an attractive mottled effect. "Glare-Out" is permanent and will not peel, chip or wash off; the tinted windows may be safely washed in the ordinary way.

Tape Sharp Metal Corners

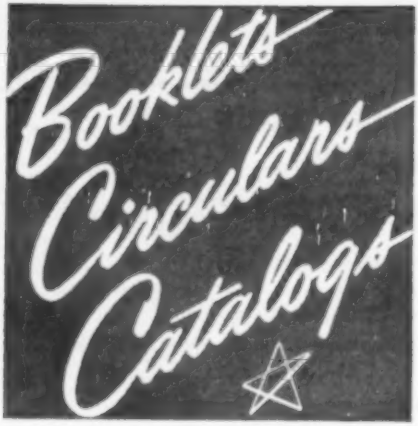
A new product is now widely used in industry to cover the sharp, dangerous corners of metal sheets. Mystik Brand Corner Protectors are made of a tough, rubberized fiber material cut in triagular-shaped pieces and scored for quick folding. They have a thin paper backing which peels off to expose the pressure-sensitive adhesive. When folded over the corners of metal sheets, they stay on securely during all phases of handling, fabricating, stacking, shipping and storage. On removal, they peel off quickly and easily without leaving any residue.

For further details, write Mystik Adhesive Products, 2635 N. Kildare Ave., Chicago 39, Ill.

Improved Linseed Oil

Cargill, Inc., 200 Grain Exchange, Minneapolis 15, Minn., announces a new process, "Dymerization," which improves raw linseed oil in a number of aspects. This results in more rapid blending with paint pigments, speedier mixing, and better pigment dispersion qualities.

Lighter in color than many linseed oils, the new Dymerized product does not stain or discolor any paints. Less mixing time results from the refining process which makes the oil "wet" pigments quicker, more uniformly.



Industrial Fan Booklet

Eleven sizes of new industrial fans and their standard wheels are fully described in a new 12-page booklet (SA-6873) available from the Westinghouse Electric Corporation's Sturtevant Division, Dept. T-415, Readville St., Hyde Park, Boston 36, Mass. The colorful booklet deals with fans which range in size from 670 to 44,000-cfm at pressures up to 16-inches mercury.

Flexible Tubing Catalog

A complete line of flexible tubing, in diameters from less than 1 to 30-in., is described in a new 4-page bulletin C2-3, available from Flexible Tubing Corp., Guilford, Conn. The ducting, made of fabric supported rubber or plastic wound on helical spring wire coils, is lightweight, highly retractable, non-collapsible, non-kinkable, flexible enough to allow up to 180° turns, and requires no installation skill.

Sheet Metal Fabrication Work Shown in K & B Book

A new "Sheet and Plate Fabrication" brochure (8½x11-in.) has been issued by The Kirk & Blum Mfg. Co., Cincinnati, Ohio. It contains 40 pages of illustrations of the Kirk & Blum fabricating plant and manufacturing facilities. The booklet also gives a comprehensive view of many of the typical parts and products the firm regularly manufactures.

Products illustrated are made from galvanized and black sheet steel, a wide range of alloys including aluminum and stainless, plate up to ½-in. in thickness, and light structurals. Broad classifications cover: breechings and casings, factory equipment, machine bases, guards, cabinets and boxes, stamping, concrete forms, transportation equipment parts, tanks, plating equipment, appliance parts, electrical enclosures and factory trucks.

Plant data covers: shearing, contour cutting, punching, stamping, forming, welding, assembly, structural fabrication, warehousing and shipping departments.

Copies of the Kirk & Blum Fabrication Catalog are available on request to The Kirk & Blum Mfg. Co., 3131 Forrer St., Cincinnati 9, Ohio.

Phosphate Coating for Paint Bonding; Rust Proofing

Information about the use of chemical phosphate treatments to increase the adhesion of paint to steel and aluminum, and to rustproof steel and iron surfaces, is in a 12-page illustrated booklet offered free by American Chemical Paint Co., Ambler, Penna. Methods of application include spraying, dipping and brushing. Trade names mentioned include Alodine, Granodine, Ridosol, Lithoform, Duridine, and Permadine.

Industrial Plant Location

To aid company management and engineers in the selection of the one location for a new plant that will offer the best combination of factors affecting total production cost, Walter Kidde Constructors, Inc., engineers and builders, has published a brochure entitled "Factors Influencing Industrial Plant Location."

The 12-page 8½x11-in. publication is a compilation of 61 basic questions which management must answer and evaluate in order to select the best site for a new plant.

Copies of the brochure are available on request to Walter Kidde Constructors, Inc., 140 Cedar St., New York 6, N. Y.

New Surface Protection by Improved Packaging

Latest developments in packaging protection, economy and sales appeal for a wide variety of products are presented in the "1953 Guide to Improved Packaging with Bakelite and Vinylite Plastics and Resins," published by Bakelite Co., a Division of Union Carbide & Carbon Corp.

More than 60 photographs illustrate packaging applications of Vinylite, Bakelite polyethylene, Bakelite styrene and Bakelite phenolic plastics and resins in the new, expanded 12-page edition of this blue and gold reference book. The properties, advantages, packaging applications and fabricating methods for the various forms of Bakelite and Vinylite plastics and resins are clearly set forth

under six headings: Coatings, Molded and Blown Plastics, Sheet Materials, Film and Sheeting, Packing Materials, and Adhesives.

Copies of this booklet may be obtained by writing to Bakelite Company, a Division of Union Carbide & Carbon Corp., 300 Madison Ave., New York 17, N. Y.

8-Page Oven Bulletin Free

Photographs and drawings of a variety of bake-finish ovens, as installed in many different industrial plants, are shown in a new 8-page bulletin 8½x11-in. printed in two colors and offered free by Carl-Mayer Corp., 3030 Euclid Ave., Cleveland, Ohio. Included are long conveyorized ovens, batch-type ovens and small portable ovens, any of which may be heated by direct or indirect fired gas, butane or propane oil, or heated by steam or electricity. Heaters for different types of ovens are also shown and described.

Book on Purchasing Procedure

Emphasizing the importance of the purchasing department and its place in the top ranks of management planning, a new booklet by Remington Rand Inc. entitled, "Purchasing Procedures to Save Time and Money", outlines several time and money saving procedures for fast, precision purchase action.

This booklet, known as X-1202 can be obtained by writing to Remington Rand Inc., 315 Fourth Ave., New York 10, N.Y. or contacting your local Remington Rand Business Equipment Center.

Coating Thickness Reprint

A new 4-page folder titled "New Standard for Coating Thickness" is available for 10c from the Office of Information Services, New York University College of Engineering, Wash. Sq. Center, New York 53, New York.

The paper, which was prepared by Dr. Max Kronstein, research associate of the Research Division of the College, is concerned with the development and use of methods for evaluating the relationship between the depth of the surface profile of grit- or sand-blasted metal surfaces and the required thickness for a protective coating system.

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Industrial FINISHING Editorial

Mechanized Finishing Offers Many Possibilities

There is hardly a finishing job—from the application of flock on flat or irregular surfaces to the simple dipping of a child's toy—that cannot be performed mechanically, and also profitably, provided the volume of production is sufficient.

Much can be said in favor of semi or fully automatic finishing. It makes for greater uniformity of the finish produced; it supplies a yardstick for measuring production; and it provides a practical means of increasing the volume of production.

Uniform high quality finishing does not happen just by chance. Often it represents the result of long and diligent research and experimentation, changes in the formulation of the coating material to obtain the desired results, maintaining correct viscosity levels at all times, and careful and consistent maintenance of equipment.

Mechanized finishing systems can be successful only through the coordinated efforts of plant management, competent finishing engineers, suppliers of equipment and coating materials. There is hardly any product we know of that does not lend itself to mechanized finishing—either wholly or partially—if the potential volume of production will justify the cost in effort and money to put in such an installation.

Placing Men Who Influence Others

★ Management in the finishing plant or department, and particularly at the foreman level, is likely to be all too well acquainted with both good and bad working habits among employees. In fact the foreman may spend a considerable part of his time keeping this situation under control.

It is easy to overlook the fact that good habits can be spread throughout the department by wisely placing certain workers. Some men are safe-

★ *Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials and pays for those used.*

Zinflex adds

WHAT LACQUERS LACK

Zinflex makes it possible for you to add more shellac to your lacquer formulations than ever before. This means greater adhesion, flexibility and a better build for many lacquer formulations.

Zinflex for the first time permits incorporation of shellac in optimum quantities because it will tolerate considerably more hydrocarbons than ordinary dewaxed shellac.

What's more, lacquers incorporating Zinflex show a greater adhesion to metals, particularly steel, than non-shellac formulations.

ZINFLEX IS COMPOSED OF:

SOLIDS — Modified Pure Refined Wax-Free Vac-Dry Bleached Shellac Gum . . .

SOLVENT — Specially Denatured Alcohol. Formula No. 1, 190° Proof . . .

WEIGHT — 8.211-lbs. per gallon . . .

PERCENTAGE OF SOLIDS — (corrected for moisture) 54.13%.

Write today for our detailed technical bulletin, and a generous sample of Zinflex.

WILLIAM ZINSSER & COMPANY, INC.

Industrial Division

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NEW YORK 19, N. Y.

319 NORTH WESTERN AVENUE
CHICAGO 12, ILLINOIS

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WOOD BLEACH

This single operation, controllable, Patented Bleach

- **Requires No Neutralization**
- **Does Not Raise the Grain**
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Gallon Unit makes two gallons of bleaching solution. Application by spray or synthetic rubber sponge. Wood is ready for finishing in less than two hours.

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Specialized Production Finishes
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RANDOLPH
PRODUCTS CO.
CARLSTADT, NEW JERSEY

ty conscious to the point that they pass the feeling along to others. Some have an inborn sense of neatness and orderliness which serves as a constant aid in "housekeeeping" problems of the finishing department. And there are those who are imbued with a basic desire to give an honest day's work; they have developed it to such an extent that they inspire others to do likewise.

Quite aside from considerations of experience and skill, it would be profitable for foreman finishers to notice these secondary qualities of character and then use them to the fullest extent. Workers may teach by example and may help to spread good work habits at no extra expense whatsoever. Placing men with this thought in mind adds a positive factor to the old system of fighting poor work habits without substituting anything definite and better instead.—*G. M. D.*

"Pep" Message From a Research Laboratory

★ Enthusiasm is emotional exultation from an abundance of youth. Regardless of age, radiance is contagious. From within, it compels us to be convincing; viewed from without it is proof that we are convinced. When we radiate enthusiasm at every opportunity offered us, where there lurks a remote likelihood of a sale for the service we can offer, we soon prove how we can build up interest whether our listener does or does not at the moment need our product.

Many old long processes are being made almost ridiculously short and snappy in our laboratory and it is surprising how many inquiries come . . . Research laboratory personnel constantly explores new realms; it does much more than develop bushy eyebrows and high foreheads . . . .

PARDON US, BUT are your
WRINKLES SHOWING
WE GUARANTEE OURS WILL —
UNIFORMLY AND CONSISTENTLY
in 32 standard colors
NATIONAL LACQUER & PAINT CO., INC.
7415 S. GREEN ST.
CHICAGO 21, ILLINOIS

Their work is not always plain and some may question its value. Nevertheless, their surrounding atmosphere is given to careful study which changes a room to a house of mystery as well as of discovery. At times .... the results acquired by these occurrences will cause comment that is returned .... with an inquiry from potential sources heretofore unsuspected.

An excellent source of interesting information comes from our laboratory. For example, a round maple button was impregnated with three times its weight, giving it the appearance and feel of ivory. Then by further impregnating or coloring it with black, red or blue to change its appearance is, to most of us, very unusual. New fields are thus created for the enthusiastic salesman, foretelling the possibilities, the uses and the feasibility of such a process. Then there looms the wire coil business with so many millions of electrical items to be impregnated with varnish or wax daily, providing almost unlimited possibilities.

Enthusiasm needs only to be rekindled to rejuvenate a youthful perspective, as a little spark and gasoline will wake up an automobile.—*Barrett Service Bulletin.*

For better industrial safety, let's present new reminders every week.

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OR
HAMMOND SOLVENTS RECOVERY SERVICE
241 Brunswick St., Hammond, Ind.

C. RAYMOND SYER
Finishing Consultant and Industrial Engineer
P. O. Box 187
Pacific Palisades, Calif.

Vacuum Processing Systems

A revised edition of the 12-page book "Complete Vacuum Processing Systems" has been released by the F. J. Stokes Machine Company, 550 Tabor Road, Philadelphia 20, Penna. Principal changes are new sections on Vacuum Metallizing and Vacuum Furnaces.

Many types of vacuum equipment now used in industrial processes are shown and described in the catalog. Included are: rotary and rotating vacuum dryers, vacuum shelf dryers, new impregnators, extraction and modern solvent recovery apparatus, and vacuum pumps.

RECOVER your Paint Overspray

• REPROCESSED in our plant to conform to its original specification, in both physical and chemical properties, paint waste overspray or sludge can be used again in regular production at considerable savings. Our more than 13 years' experience is customers' guarantee of satisfaction.

• WRITE for complete details!

W. C. RICHARDS COMPANY 3108 W. Vermont St., Blue Island, Ill.

ALL METAL STRAINER UNIT

$3.95 Complete

Write for Leaflet

GARDNER LABORATORY, INC.

Bethesda 14, Md.

Write for complete catalog of paint testing apparatus.

Value of Using the Correct Method

★ About two years ago an industrial plant located on the West coast installed a finishing department for painting products ordered on a government contract. This plant is still making the product, having received renewal contracts.

The layout designed by their engineers called for hand spraying operations. During the first six months of production, actual labor and material costs were tabulated.

Upon being called in to render consultant services in this department, recommendations were made for consideration of the use of electrostatic coating equipment. In a months time the electrostatic equipment was installed and placed in operation.

The annual savings in labor, maintenance and material cost has amounted to well over $100,000. Besides this savings, a better quality of finished product has been obtained, rejects have been reduced to a minimum, and the customer is well satisfied.

This change in method represents a concrete example of the value of using the correct method of application for the product, according to the volume of production planned. It also represents what can be accomplished and the value of entertaining the idea of using what is available in automatic equipment when the size of an order may justify it.

I would like to mention to the readers of INDUSTRIAL FINISHING Magazine that there are many opportunities which embody savings and reduction in finishing costs, as well as improvement in the finished apearance, when time is devoted in determining the correct procedures in handling and the application of finishing materials and operations.

Along with this article I am sending my idea of "Twelve Waste Preventive Measures" for the finishing department. This idea has recently been accepted in eleven plants located from coast to coast.

Pressures. Never use higher fluid or atomizing pressures than are required.

Rejects should be held down to a minimum.

Efficiency. Use efficient methods and techniques.

Viscosity. Control the viscosity of all materials received and used.

Empty Containers. Drain and use the last bit of material from the drum.

Never mix more paint than needed for the production run.

Triggering Gun. Always trigger spray gun at beginning and end of each stroke.

Watchfulness. Be alert at all times to prevent waste.

Adjustment of spray gun spreader and fluid flow valves should be set and maintained to produce the best results.

Spilling of materials is wasteful; sometimes dangerous; avoid it.

Thickness of paint film, as measured in mil thickness, should be uniform and held to specified requirements.

Endeavor to reduce overspray by avoiding any over-shooting of the surfaces being sprayed.—*C. Raymond Syer.*

F. J. Kiernan, Sales Eng. for U. S. Stoneware Co.

The U. S. Stoneware Co., Akron, Ohio, has appointed Frank J. Kiernan as sales engineer. Mr. Kiernan holds the degree of Bachelor of Science in Chemical Engineering which he received upon completion of a five year cooperative course at the Univerity of Detroit. He is a Junior member of the American institute of Chemical Engineers and Chemical Engineers of Greater New York.

Mr. Kiernan has had wide experience in chemical processing, having specialized in the field of organic and fine chemicals for a number of years. His work in pilot plant and semi-works production, plus research and development has given him a thorough knowledge of the process industries and related problems.

AGATEEN

Clear Baking Lacquer 13-C

Recommended for Name Plates, Dials, emblems, etc.

Can be blanked, drawn or sheared after finishing.

Clear Baking Lacquer 13-C is an excellent all-purpose lacquer for all metals.

No samples.
Minimum order accepted.

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11-13 43rd Road
Long Island City, N. Y.

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THE LAST WORD IN QUALITY

HOLLAND
automatic-pneumatic.
SPRAYING MACHINE

- PORTABLE
- DRIVEN SOLELY BY AIR PRESSURE

Production up to 1000 pieces per hour

Uses regular exhaust booth

Only one operator is needed to load unfinished and remove finished work.

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Sherwin-Williams Names Menz To Head Factory Operations

George A. Menz, who since 1937 has been general superintendent of The Sherwin-Williams Co. Cleveland factory, has been named general superintendent of operations for the paint manufacturing firm.

A native of Cincinnati, Menz came to Cleveland as office superintendent at the Sherwin-Williams Canal Road plant. Prior to becoming general superintendent of this facility, he filled various posts that included supervision of factory personnel and direction of the technical service department. In his new position he will supervise all Sherwin-Williams factories in the United States under Victor Mills, general manager of paint, varnish and lacquer manufacturing operations.

Succeeding Menz as general superintendent of the Cleveland factory is M. W. Hurdelbrink, who has held a similar post at the Chicago factory of Martin-Senour.

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"Take Mystery out of Paint Application"; Field Report

A Field Report on the latest methods of lacquer and enamel application to manufactured products, with practical recommendations for obtaining best results and least wastage, has been prepared by Lee Turner, 8240 Sandy Lane, Cincinnati 24, Ohio.

Mr. Turner has had extensive experience in selling, installing and servicing equipment for the application of lacquers and enamels to various products in hundreds of industrial plants. His report covers the preparation and application of paint materials by manual and automatic spraying, dipping, roller coating, flow coating, tumbling, centrifugal and silk screen.

Subjects treated include the function of solvent in paint, viscosity, temperature control for preparation and application of materials, evaluation of heat in-put in paints, how to maintain uniform high quality finishing in each of the several methods of paint application, the merits of a certain degree of heat for specific materials, processes and products, airless atomization, etc.

Price of the report is $5.00 per copy.

Parker Rust Proof Co. Opens Eastern Plant in N. J.

A new manufacturing plant to serve East Coast customers has been opened by Parker Rust Proof Co. at Mountain View, N. J. Parker Products for surface treatment of metals are made and shipped from the new plant to the metalworking industry throughout the eastern part of the nation.

Parker's Eastern office, formerly in New York City, is now headquartered at Mountain View, also.

Aikin is Made Sales Mgr. of Standard P. & V. Co.

Robert C. Aikin has been appointed general sales manager of the 54-year old Standard Paint & Varnish Co., Ltd., of Windsor, Ontario, Canada. Aikin has been transferred from the Rinshed-Mason Co., Detroit finish manufacturer, which company recently purchased Standard. Aikin had been assistant automotive-industrial finishes sales manager at R-M; and brings to Standard a background of nearly 25 years in the paint business.

Random Comment on the Industrial Scene

(Continued from page 6)

Fire Fighter. A new foam has been developed which remains stable in the presence of alcohol. This foam, it is claimed, can lie over a fire as long as 12 hours, resisting attacks of alcohols, ethers, esters, ketones and other water soluble agents.

* * *

Petrochemistry is a word so new that it has not been included in many dictionaries, yet it is widely used in many industrial journals. Raw materials made from oil are petrochemicals. These materials are used to produce plastics, furniture polish, medicines, insect killers and ladies' stockings, to name just a few; a recent estimate placed the figure at 5000 such products. In a little better than 25 years petrochemistry has become a two billion dollar industry, and it is still an infant.

* * *

Plastic Piping is now produced in two types, flexible and semi-rigid. According to the manufacturer, the smooth interior walls increase the

* * *

Airless Metal Cleaning. Did you know that equipment is available for removing scale and sand from metal surfaces without the use of compressed air or steam? Size, shape or weight of the product makes no difference with this method. Special equipment is used for cleaning precision metal products where sharp edges may not be rounded by the abrasive thrown onto the surface by centrifugal force. The equipment may also be used for cleaning metal surfaces prior to the application of organic coatings. The manufacturer states that anything from hypodermic needles to rock crushers can be cleaned by this method. It is also being used for deflashing of plastics products.

* * *

Furniture Business. According to a report by Seidman & Seidman, accountants for many leading furniture producers, furniture orders for the first eight months of 1952 exceeded those of the same period last year by 2%. Unfilled orders at the end of the

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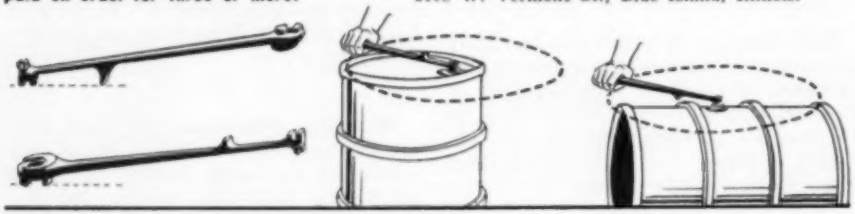
Price $5.00 F.O.B. Chicago. Postage paid on order for three or more.

It fits all sizes and designs of caps or plugs which close the openings in steel drums. Positive grip without slipping. Guaranteed not to break. William C. Richards Co., P. O. Box 155, 3108 W. Vermont St., Blue Island, Illinois.



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Made of heavy paper stock with cloth inserts in coarse, medium, fine or extra fine mesh. 6" in diameter.

LOUIS M. GERSON CO.
BOX 175 MATTAPAN, MASS.

Ed Hogstrom Joins Lab. Staff of Robertson Co., Inc.

The Robertson Co., Inc., Louisville, Ky., manufacturer of wood and metal product finishes, announces the addition of Mr. Edwin Hogstrom to its laboratory staff. Mr. Hogstrom will have charge of formulation and development work on stains, fillers and related products for the furniture industry.

Mr. Hogstrom has had a wide and varied experience in the wood finishes field including a number of years as superintendent of finishing in a large furniture manufacturing plant. In recent years he has been associated with the finish manufacturing industry in the Chicago area. He has been a frequent contributor of articles on furniture finishing to various trade publications and has acted as a consultant to the furniture industry on production and handling problems.

8-month period this year exceeded those of last year by 6%. At the August shipping rate, the backlog represents approximately seven week's shipments.

* * *

Plastics Coating. A new synthetic enamel, designed to solve the problem of coating and decorating chemically inert polyethylene has been developed. It is said to give excellent results.

* * *

Fluorescent Lighting in its comparatively short life of 13 years has forged ahead of incandescent lighting according to Fred D. Horroff, vice president of General Electric Co., and general manager of G. E.'s lamp division. He explained that the fluorescent lamp is three times as efficient as the incandescent bulb, and lasts more than seven times as long.

Government figures show the lamp industry produced 631,670,000 fluorescent tubes of all sizes between 1938 and 1951. Fluorescent lamps are being consumed at a rate of about 85 million annually.

* * *

Appliance White. The plastics industry, in cooperation with refrigerator makers, has selected a shade of white that will be considered standard for refrigerator parts made of polystyrene plastics.

A. D. Duncan, vice president of the Glidden Company and general manager of the company's Paint & Varnish Division, describes his division's products to members of a technical study group from France who visited Glidden's Cleveland plant recently under the sponsorship of the Mutual Security Agency.

Frenchmen Visit Glidden Co.

Production methods and labor-management relations in The Glidden Company's paint and varnish plant at Cleveland were studied recently by members of the painting and glazing industry of France.

The nine Frenchmen, who represented both labor and management, were members of a technical study team visiting companies throughout the United States as part of a project sponsored by the Mutual Security Agency. Theirs was one of many units which have been touring U. S. companies finding out as much as they can about industry here.

The Mutual Security Administration is impressing Europeans with a cooperative spirit in the United States which results in a better economy and a better standard of living.

Newcomb-Detroit Co. Buys Plant In Canada

The Necomb-Detroit Co., Detroit, Mich., announces acquisition of Windsor Metal Fabricators, Ltd., a Canadian firm in Windsor, Ontario, Canada. This new subsidiary will be called Newcomb Industries, Ltd., and will manufacture industrial ovens, spray booths, parts washers, dust collectors and general metal fabricating work at a new location on London Street in Windsor. The new shop has about 10,000 sq. ft. of floor space. It is being completely equipped with all machinery required for metal fabrication from ¼ inch plate sheets to 24-gauge sheets, as well as light structural steel work.

Newcomb Industries products are used extensively in the Paint Finishing Departments of automobile plants and domestic appliance manufacturers, as well as other industries applying paint finishes to their products.

More A. Brown Co. Offices

Additional offices announced by Andrew Brown Co. (industrial, automotive, marine, and aircraft finishes) are at 3831 El Cajon Blvd., San Diego, Calif.; 5026 Bungalow Lane, Fresno, Calif.; and 249 Montrose Way, Columbus, Ohio.

Schroeder, Technical Director of Perfection P. & C. Co.

Perfection Paint & Color Co., Indianapolis, Ind., announces the appointment of E. H. Schroeder as Technical Director in charge of Paint, Varnish, and Lacquer laboratories.

Mr. Schroeder joined the Perfection organization on Nov. 1, after serving for six years as technical representative for the Resin Division of U. S. Industrial Chemicals, Inc. Prior to that time Schroeder had been connected with two manufacturers of finishing materials.

O'Neil Duro Co.'s Exhibit at Atlantic City, N. J.

An attractive and informative exhibit of durable finishes for school desks and chairs was prepared and shown by O'Neil Duro Co., Milwaukee, Wisc., at the convention of the Association of School Business Officials, held October 12-16, 1952, at Atlantic City, N.J. Included were several pictures showing other uses of Duro finishes, each mounted on a panel finished to correspond to the product portrayed in the picture.

This exhibit got the attention and held the interest of school business officials attending the convention at Atlantic City.

A used desk and chair, finished in the company's materials, were exhibited to show how the finish had withstood more than three years of school room service.

On tables at the exhibit the company showed a finished desk top and a demonstration panel where scratch resistance tests were repeated for those in attendance at the convention. School officials are vitally interested in finishes that will stand the severe service to which all school furniture is subjected.

FORD CUPS

THE VOL-U-METER COMPANY

Buffalo 16, New York

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion.

POSITION WANTED.

Expert Foreman Finisher desires connection with reliable concern. 25 years' experience as foreman. Have knowledge both technical and practical in all finishing phases. Capable of meeting schedules with high quality finish. I harmoniously manage any number of people. Can furnish best of reference. All replies will be treated in confidence. Address IF-955, care Industrial Finishing.

FINISHING FOREMAN WANTED.

Medium size Eastern Penna. television cabinet plant requires qualified man to assume complete charge. This is a permanent position with a real future. Furnish complete history and previous connections, also starting salary required. Address IF-956, care Industrial Finishing.

FINISHING FOREMAN WANTED.

Manufacturer of high-grade occasional furniture needs experienced man in all phases of finishing. Must know colors and have knowledge of application. Address IF-957, care Industrial Finishing.

OVEN SALESMAN WANTED.

By well established manufacturer located in midwest, to cover sate of Indiana. Complete line of industrial ovens, driers and low temperature furnaces. Address IF-962, care Industrial Finishing.

SALES MANAGER WANTED

For midwest manufacturer of industrial finishing products for wood and metal. Great opportunity for right man to make big money. We have 18 experienced salesmen as a team for greater development. Man must be a leader and experienced in this trade. Address IF-933, care Industrial Finishing.

SALESMAN WANTED

To represent manufacturer nationally known industrial finishes which includes full line of lacquers and enamels. Headquarters to be Rochester or Syracuse, New York. Address IF-966, care Industrial Finishing.

SUPERINTENDENT WANTED.

Experienced man, capable of supervising 40 to 50 employees in plant manufacturing "Pre-Fabricated" homes. Plant located in New York state. Fine opportunity for top man. Send complete resume of former positions, also state age and personal information. All replies held in confidence. Address IF-958, care Industrial Finishing.

SALESMAN WANTED.

Experienced in selling industrial paints, lacquers, enamels. Moderate size, well-known manufacturer has opening for salesman with following in metropolitan New York area. Must have car. Drawing against commissions. Exceptional opportunity for right man. Address IF-950, care Industrial Finishing.

SALES REPRESENTATIVE WANTED.

Established manufacturer of complete line of Industrial Finishes needs experienced man to cover greater Boston and Massachusetts areas. Must know territory. Good opportunity for a "gogetter". Draw against commissions. Address IF-960, care Industrial Finishing.

SALESMEN WANTED.

Salesmen, commission basis, paint spraying equipment, industrial pumps, and allied products, in the New York, New Jersey and Connecticut areas. Can have other non-conflicting lines. Address IF-961, care Industrial Finishing.

COLOR MATCHER.

Age 25-45. Wanted for Lab and production color control. Modern Chicago paint factory. Excellent opportunity for right party. Give full particulars in first letter. All replies are confidential. Our employees know of this ad. Address IF-959, care Industrial Finishing.

Excellent Position Vacancy.

Laboratory chemist or formulator experienced in synthetic enamels and clears for industrial coatings end use. Midwest location. Send full particuars including salary requirements to JOHN HOLLE, FINISHES DIVN., INTERCHEMICAL CORP., 1754 Dana Ave., Cincinnati 7, Ohio.

SALESMAN WANTED

For Wisconsin, Minnesota and part of Illinois. Must be practical in industrial finishing. Well established and nationally known company. Substantial salary and commission. Address IF-963, care Industrial Finishing.

SALES REPRESENTATIVE WANTED.

High calibre industrial sales representative with sound technical background. Central West territory. Association with progressive company of good reputation, having an excellent laboratory, a line of quality products with some unusual specialities. Should provide right man with opportunity for volume sales and corresponding compensation. Written application only. Confidential. Address IF-932, care Industrial Finishing.

SOLVENT CLEANING SERVICE.

Dirty lacquer solvent can be shipped to us for distillation and returned to you clean and ready for use. Within 200 mile radius of Louisville a substantial economy can be realized. Cost runs from 14c to 19c per gallon. KENTUCKY COLOR & CHEMICAL CO., 600 N. 34th St., Louisville 12, Ky.

WANTED TO BUY.

Will buy your dirty Thinners and Solvents. Send samples or letters giving approximate contents and solids. Address THE JOHANN CO., 8547 S. Ashland Ave., Chicago, Ill.

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Slightly used "American" self-cleaning continuous air filters. Type S. No 2999. 4 ft. x 12 ft. Write GEORGE KOCH SONS, Inc., Evansville, Indiana.

AUTOMATIC GRAINING MACHINES FOR SALE.

Five (5) automatic graining machines complete with graining plates. Machines will handle flat work up to 2-in. thick, 30-in. wide, 60-in. long, and will grain up to 50-ft. per minute. Address IF-964, care Industrial Finishing.

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Controlling interest in industrial paint company located in Central Indiana. Manufacturing paints, lacquers and varnishes for both metal and wood industry. Requires $120,000 for interest. Moving to Florida for health. Exceptional offer. Complete financial statement available if definitely interested. Address IF-955, care Industrial Finishing.

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The expert finishing technicians at Advance are ready to formulate a finish to fit any surface, any method or schedule, and any requirement — exactly.

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In large and small plants, Fume Control Systems engineered, fabricated and installed by KIRK & BLUM show substantial savings by increasing the life of costly plating equipment.

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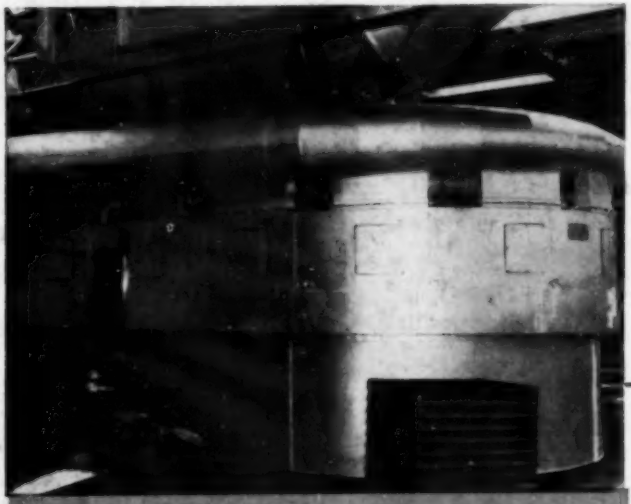

KIRK & BLUM Fume Control on an Automatic Plating Machine in a noted auto ignition parts plant. Note hinged anode access and inspection doors just above tank top.

Write for Booklet F, showing typical installations.

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